

# Human Sustainability and Cognitive Overload at Work

The Psychological Cost of Working

ALEXANDER D. STAJKOVIC AND KAYLA S. STAJKOVIC



ROUTLEDGE

# HUMAN SUSTAINABILITY AND COGNITIVE OVERLOAD AT WORK

This innovative book considers the cost of cognitive overload and psychological distress on human sustainability, and suggests ways to prevent employees from becoming a psychologically depleted workforce.

Employee attentional processing capacity is maxed out, and psychological distress is at an all-time high. Alexander D. Stajkovic and Kayla S. Stajkovic explain how human cognitive ‘broadband’ is at the hunter-gatherer level and changes at an evolutionary snail’s pace. Yet the amount of information necessary to make a living now is incomparable to then, and the current relationship between workers and organizations is unsustainable. The authors discuss causes, processes, and consequences of human unsustainability at work, as well as suggesting remedies for personal change, leadership practice, and policy development. They frame efforts toward furthering human sustainability as a grand challenge that tackles a chronic problem at a societal level with consequences that have ripple effects into other spheres of life. Drawing from multiple disciplines and data sources, the book offers a theory-driven, evidence-based, and meaningful way to better understand employee cognitive overload and psychological distress in organizations across the globe, and improve work lives, going forward.

*Human Sustainability and Cognitive Overload at Work* is a useful resource for students and scholars of business, management, leadership, organizational and work psychology, and organizational studies. The practical insights will also help managers, policymakers, policy analysts, consultants, and all those with an interest in the psychological cost of working.

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*Alexander D. Stajkovic and Kayla S. Stajkovic*



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# CONTENTS

<i>List of figures</i>	<i>vii</i>
<i>Preface</i>	<i>ix</i>
1 Introduction to Cognitive Load, Attentional Processing, and Human Sustainability at Work	1
<b>PART 1</b>	
<b>How We Arrived at Cognitive Overload</b>	<b>15</b>
2 Increase in Cognitive Load Through Epochal Stages of Human Development	17
3 The Failure of the Leadership “Cottage Industry” and Organizational Leaders as More Proximal Factors Contributing to Employee Cognitive Overload	34
<b>PART 2</b>	
<b>How Bad is It and How Should We Work Then?</b>	<b>49</b>
4 Evidence of Psychological Cost of Working in Contemporary Organizations: Anxiety, Depression, Work- Home Conflict, and Suicides Attributed to Work	51
5 Theory Guidance Toward Human Sustainability at Work: Moral Matrices, Business Concerns, Science, or all of the Above?	63

**PART 3**

**Toward Reducing Cognitive Overload and Fostering Human Sustainability at Work at Different Levels of Analysis 81**

- 6 Modify the System: Pros and Cons of Liberal, Coordinated, and Directed Capitalism 83
- 7 Modify Organizational Leadership: Ethics of Care and Female Leadership Advantage 103
- 8 Modify Humans: Are There Limits to Transcending our Limitations, is *Homo Sapiens* Outdated, and How to Contemplate AI Upgrades? 119
- 9 Cognitive Automation: Reducing Cognitive Overload and Boosting Performance Without Attention 134

**PART 4**

**Epilogue 145**

- 10 Alternative Explanations, Future Research, and Conclusion 147

*Index 160*

# FIGURES

I.1a	Hunter-gatherer	15
I.1b	Agriculture	15
I.1c	Industrialization	15
I.1d	Cognitive Overload	15
II.1	Uncertainty	49
III.1	Finding the right balance	81





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# PREFACE

This preface is a short, advance notice to the reader of lenses that might color our writing, although hopefully not distort it. This is followed by the book's structure, briefly explaining how we organized the progression of our arguments.

Our main perspective is that of employees and, more specifically, their information processing struggles in contemporary organizations. More widely known as cognitive overload, this condition results in the psychological cost of working, which is often manifested as anxiety, depression, burnout, work-life conflict, and work-attributed suicides. These and other related mental-health conditions are frequently referred to, summarily, as psychological distress.

We focus on individuals because their work stories are personal, and any measure of group success that disregards individual outcomes is incomplete. By centering this book on employee psychological woes at work, we ground our discussion within the contextual organizational dynamics that reflect the realities of the lived human condition.

To learn more about employee cognitive overload and psychological reactions to it, we focus on the arena in which it occurs, the human mind, and the tools we use to explain these processes come mostly from cognitive psychology. For example, whereas behaviorism focuses on observable behaviors and their influence on behavior, cognitive psychology studies thoughts (e.g., ideas), concepts (e.g., dignity), and mental representations (e.g., sequence of primes and behaviors). It examines how they are formed, stored in, and accessed from memory, primed into action by environmental triggers, and how these processes can be distorted, for better or worse, by psychological machinery. Cognitive psychology emphasizes that humans are not monoliths who all think, feel, and behave similarly. Individual differences are

a consequential concept in this field and this book, and a cognitive tradition is the underlying framework herein.

With that framing in mind, our starting assumption is that many individuals are hard-working and look for fair opportunities to make a living, preferably in a somewhat dignified way. Work could be a source of joy that makes people feel alive. It could provide a sense of purpose, goals to attain, new colleagues to meet, and communities to serve. Work also shapes professional and personal identities, as echoed in last names like Baker, Cook, Hunter, Miller, and Taylor, which signaled one's trade and place in society. From their early age, children are asked what they want to be when they grow up, i.e., what careers they would like to pursue? When adults meet each other, one of the first questions is what do you do for a living? This is to say that economic progress is not an enemy in this book. But, it is important to recognize that the workplace has become a discomfoting aspect of lives for many employees psychologically.

In discussing historical, social, and economic stages of human development, we canvas a broad range of contextual knowledge. Although this book is grounded in theory and informed by research, context helps with the interpretation of data by connecting the reader with the ways of making a living from diverse circumstances and different moments in history. Thus, we use significant epochs of human development as background to demonstrate the progression and varied complexities of making a living and not to espouse ideological preferences.

Whether we need a new package of ideas going forward and how to get there is discussed but not prejudiced. Relatedly, when we mention religion in the text, we take it as a social archetype used to help people figure out what they cannot control and find meaning outside of "ashes to ashes, dust to dust." We do not go into the divine aspects of any religion mentioned.

Finally, as we move through the book, we neither romanticize the sentiments of the past nor glorify prospects. There is, though, an undertone of Voltaire's question of whether life (and work) necessarily improves just because we move forward in time. We specify levels and magnitudes of contradictions today's employees face, question whether they can psychologically adapt to them, query how likely it is to make optimal choices in light of shifting work priorities to reduce cognitive overload, and ask how much employees can take these days at work before they blow a fuse. In doing so, we are critical, but we do not pontificate.

Theory guidance and empirical research are guardrails within which the material in the book is presented to the reader. Within this intellectual space, we weave together work illustrations and examples from the literature and culture, in a way that stays true to science but humanizes it by lived experiences. In the final analysis, this book is meant to be

accessible, interesting, and useful in making a difference in the lives of workers, going forward.

## Structure of the Book

In Chapter 1, we introduce the main concepts. We define cognitive overload as a juxtaposition of Attention Processing Capacity and Attention Processing Demands (APD) and discuss what we mean by human sustainability at work. In Part I, we explain how we arrived at cognitive overload. In Chapter 2, we show a progression of APD for making a living. We describe the hunter-gatherer days as a baseline, moving on to agriculture, and ending in the industrial era. In Chapter 3, we address more proximal issues that further escalate cognitive overload, such as the failure of leadership “cottage industry” and organizational leaders. This part is meant to help us understand progression of human experience in making a living through the particular lens of progressively increasing cognitive overload necessary for it.

In Part II, we ask two questions. First is how much employees can take at work these days. Chapter 4 provides evidence from multiple sources of the relationship between cognitive overload at work and various forms of psychological distress and related outcomes (e.g., anxiety, depression, work–life conflict, and work-attributed suicides). Each one is at the highest level ever recorded. Going off of that evidence, in Chapter 5, we ask if the transformation of working to date has brought us to the brink of a psychological collapse, how should we live our work lives? Given the involvedness of answering this question, we discuss why theory should guide this conversation forward, and we review several conceptual frameworks that could inform this dialogue. The choices discussed are moral matrices, business concerns, science, or all together.

The undertone of Part III is that for every complex problem there is a simple solution and it is almost always wrong. For example, imagine asking employees the following question: *to put yourself on the path to future economically successful and psychologically meaningful work, what would be one work-choice you would make now?* Most would hesitate to provide one answer because complex problems require complex solutions. Maybe money alone is a simple answer? But is it really if you are burned out by cognitive overload at work, resulting in anxiety and depression, and maybe even quietly contemplating suicide to escape the psychological pain? Accordingly, we specify three loci from which change toward human sustainability at work could come and explain what each approach could bring to the table. We aim to promote both productive and humane organizations, in a spirit of their reciprocal causation, with arguments from several disciplines packaged together in an internally coherent set of ideas. We tackle the potential ways forward toward human sustainability at work at three levels of analysis.

Macro-level policies are discussed in Chapter 6. We critically review the pros and cons of several versions of capitalism today and suggest how the pros could be amalgamated into a more conducive system toward human sustainability at work. Chapter 7 shifts the focus from the macro-level to the meso-level of organizations and advances the proposition that the metamorphosis required to alleviate cognitive overload at work might be catalyzed by leadership practices in organizations. We propose an ethics of care leadership style, according to which leaders foster a caring culture. We review the literature on a Female Leadership Advantage and suggest that women leaders, compared with men, care more for others at work. Evidence supporting these claims is provided and discussed.

In Chapter 8, we expand the vista further, suggesting that the transformation is not limited to external systems such as capitalism and organizational leadership. It might be that the evolutionary blueprint of *homo sapiens*, essentially unchanged since our hunter-gatherer ancestors, needs to be re-examined. Considering fusion with artificial intelligence (AI) is tempting, notwithstanding the devastating blow it can deliver to our long trek as anatomically modern humans. But, maybe it is time for such change as there is no scientific reason to believe that Homo Sapiens is the ultimate rung on the evolutionary ladder. Decisions between progress and some forms of AI update, or staying who we are but being un-updated, will be one of the most complex decisions humans will make. Debating how that decision-making process might look like could be informative.

Chapter 9 discusses perhaps even more controversial topic of whether intelligent work in organizations is possible without employee awareness. To tackle skyrocketing employee cognitive overload, we propose cognitive automation via subconscious processing as a substitute for some attentional processing. We suggest that conscious guidance is not necessary for all work pursuits and show how some of the most complex ones – goal-directed action – could be cognitively automated. This can produce the same, or better, performance results at work while saving on attentional resources, which can be deployed where they are irreplaceable.

In Part IV, the Epilogue, we discuss limitations of our arguments, as done in academic papers. We review several alternative explanations and offer a few overarching conclusions in Chapter 10.

# 1

## INTRODUCTION TO COGNITIVE LOAD, ATTENTIONAL PROCESSING, AND HUMAN SUSTAINABILITY AT WORK

Hunger, infectious diseases, and wars have been the most pressing human concerns for thousands of years. Although these issues continue in some parts of the world, on the whole, they are primarily resolved, and the quality of life today has improved in many aspects. About 100 years ago, the average human life expectancy was 55 years, alcohol was prohibited, and radios were the primary source of entertainment. About 50 years ago, the U.S. was in a Cold War with the Soviet Union, personal computers and mobile phones were unavailable to the public, having the desire to protect the earth was a fast way to be labeled a tree-hugger, and a high school diploma was sufficient to secure a steady union job.<sup>1</sup> As a result of numerous material improvements in virtually every domain of human functioning today, one may expect a relatively satisfied, healthy, and harmonious human existence. Yet, consider the following titles in the business press:

- Why Being a CEO Should Come with a Health Warning. *CNN* (2010)
- The Miserable Middle Managers. *SHRM* (2018)
- The Psychological Price of Entrepreneurship. *Forbes* (2019)
- How Overwork is Killing Us. *BBC* (2021)
- Tackling America's Workplace Suicide Epidemic. *The Guardian* (2022)
- Why Health Care Workers are Burning Out. *The New York Times* (2023)
- Teachers, Facing Increasing Levels of Stress, Are Burned Out. *New York Times* (2023)
- Why are Lawyers at Greater Risk of Suicide? *Psychology Today* (2023)
- Mental Health Issues Soar to Number 1 Workplace Injury. *Forbes* (2023)
- Why is Everyone So Unhappy at Work Right Now? *Wall Street Journal* (2023)

Organizations were created to satisfy societal needs for products and services and make some profit along the way. Businesses have delivered on that promise. One misconception among the public is that chemical contamination and other physical dangers at work are mostly to blame for people's misery at work. However, many of the tangible hazards have been significantly mitigated through legislative frameworks, legal discourse, and oversights of government agencies, such as the Occupational Safety and Health Administration and the Environmental Protection Agency in the U. S. These practices and institutions made strides in establishing and enforcing safety standards to protect workers from hazardous exposures. Another misreading of the workplace is that increased working hours result in the lion's share of employees' problems. Yet, formal working hours have decreased globally in the last two decades.

Recent evidence from multiple sources indicates that many afflictions in the workplace stem from employee cognitive overload. As the term suggests, cognitive overload occurs when there is more information to be cognitively processed than it could be. Cognitive overload has, in turn, exaggerated psychological maladies in organizations.<sup>2</sup> Although simply lowering work engagement might mitigate the problem, most people do not keep a maxed-out computer and just use it less, much less intentionally decide to dial it back and reduce their cognitive processing at work. Those who do, colloquially called the "quiet quitters," face limited career opportunities, a negative reputation, stagnant skill sets, loss of confidence, and adverse financial consequences. Instead, new solutions are needed, and we suggest they start with understanding cognitive load.

To illustrate the concept, imagine that you are entering a conference room at work, armed with a laptop, a stack of reports, ideas to discuss, and a cup of coffee, determined to multitask. As you set up your computer, reshuffle the reports supporting your ideas to present, and take care not to spill your coffee, you look up and realize you are alone in this room. Perplexed, you question whether you correctly registered the meeting location, day, or time. In this scenario, it could be that your brain has reached its capacity for processing information, which is not boundless, resulting in cognitive overload. This can be a temporary situation from which you can quickly recover. However, if cognitive overload persists for the duration of your work, day after day, it can manifest in anxiety, depression, work-life conflict, and work-attributed suicides.

The commiseration of multiple factors – amorphous job demands, stretch goals, shifting targets, mounting distractions, ever-growing productivity demands, and cut-throat corporate cultures – has created a workplace characterized by a surplus of information that cannot be simultaneously processed in the unit of time by individual employees. This condition, familiar to many workers today, is known in psychology literature as cognitive overload.

## What is Cognitive Overload?

Cognitive overload can be explained as a function of attention. Cognitive (over)load can be explained as a function of attention. The starting point of this narrative is that the mind allocates cognitive resources to help us handle what is in front of us. The two critical factors in this process are *attentional processing capacity* (APC) – attentional capacity available for the task – and *attentional processing demands* (APD) – attentional resources demanded by the task. The relationships among APC, APD, and task performance (TP) can be shown as follows: If  $APC - APD > 0$ , then  $TP > 0$  (1) If  $APC - APD < 0$ , then  $TP < 0$  (2) Equation 2 portrays cognitive overload when less attentional capacity is available than is needed to attentionally process the task demands. This constellation of resources hardly ever works in the physical world. For example, how many believe that less love contributes to a better marriage, less sleep leads to more energy, decreased investment yields higher profits, less water promotes healthier plants, and reduced work safety leads to fewer accidents. Colloquial indicators of a state of cognitive load include phrases such as “I’m running on fumes,” “My brain is fried,” “I’m on my last legs,” “I’ve hit a wall,” “My mind is mush,” or “I might explode.”

The latter phrase is derived from the workings of the steam engine, or a modern-day Instapot. When boiling steam is trapped inside an enclosed container, it builds up pressure until it is either released or the temperature is lowered. Otherwise, the steam engine explodes. With the Instapot (i.e., pressure cooker), the heat switch regulates the internal pressure. If the pressure gets too high, steam is released through a valve. Otherwise, the cooker succumbs to pressure.

Cognitive psychology similarly explains cognitive overload. A central nervous system monitors information processing levels and compares them to the equilibrium, where the cognitive system needs to be for most adaptive functioning. When APD exceeds the equilibrium, or  $APD > APC$ , stress occurs, and the brain releases cortisol. It produces subjective feelings of anxiety and depression to signal the human to reduce APD (i.e., “let off some steam”). However, if APD exceeds APC for long, the system reaches a “boiling” point, which can lead to suicide.

Anxiety is defined as a fear of future outcomes, i.e., worry and apprehension about what is to come. It can create feelings of dread over anticipated challenges (e.g., social anxiety, job search anxiety, performance anxiety) that might or might not manifest. The bodily functions represented by anxiety involve multiple systems. One is the nervous system activation of a “fight or flight” response to a perceived threat. This involves a heightened state of awareness and concern for outcomes, which subsumes elevated secretion of adrenaline, in addition to cortisol, by the endocrine system. Both prepare the body for immediate physical action, as muscles tense and the respiratory system boosts hyperventilation. The cardiovascular system strengthens heart contractions and increases the beat (e.g., “heart pounding”) to increase blood pressure to the



muscles. People experiencing anxiety often become fixated on trying to control the future, which can be mentally exhausting. This is all normal in short-lived situations, especially if a threat is real. However, chronic anxiety impairs normal functioning, and manic anxiety is debilitating.

Depression is characterized by prolonged sadness, lack of interest in once enjoyable activities, and feelings of hopelessness. In addition to elevated cortisol, depression is typically associated with imbalances in neurotransmitters (chemical messengers) such as norepinephrine, serotonin, and dopamine. These regulate mood, energy/fatigue, thought, behavior, appetite, insomnia, and muscle pain. Depression is a condition that forms a complex interplay between mental and physical health, resulting in feelings of sluggishness, worthlessness, excessive guilt, lack of concentration, and impaired cognitive abilities. As with manic anxiety, manic depression is debilitating and often requires professional treatment.<sup>3</sup>

In summary, stress is the body's reaction to imbalances that require adjustments.<sup>4</sup> The central nervous system sends signals to the body that it is cognitively "overheating," these signals come at a psychological and physiological cost. This psychological cost of cognitive overload is not an imagined abstraction. It is a reaction to the imbalance in one's information processing system, such that the demands on it exceed the capacity or there are insufficient cognitive resources available. Some stress on the cognitive system is beneficial, providing impetus to boost effort. When stress spurs anxiety and depression, work and life can be impaired. The spectrum goes from mild difficulty concentrating and minor demotivation to severe forms of these outcomes. This is not "touchy-feely stuff," as some managers of yesteryears might call it; these variables and the biological processes behind them are scientific orthodoxy today.

Anxiety and depression, of course, are not the only psychological maladies resulting from cognitive overload. However, when possible, we focus on these two because they are well-defined, researched, and recognized across disciplines. Doing so also avoids confusion connected with other adverse psychological outcomes that are ill-defined, including concepts like frazzled, unstable, desperate, exhausted, angry, frustrated, mentally fatigued, withdrawn, detached, and confused. Burnout is somewhere in-between regarding its definitional clarity. Some understand it in its literal sense, as *burned-out* or something that stays broken, as in a bent tree that snapped. If this view is correct, healing is impossible, and this book has no point. Others see burnout as something that is bent, metaphorically, but can swing back into a normal position, as in a bent tree that returns to its shape after releasing bending pressure. This flexible view, though, is incompatible with burnout and, thus, applies to many other ailments.<sup>5</sup> For these and related reasons, reporting government agencies, as will be covered in Chapter 4, tend to use the broad term *psychological distress*.

## Attentional Processing of Information and Measuring Cognitive Overload

The role of attention in a cognitive processing system is to gauge and interpret inbound information from sensory inputs. Whereas long-term memory stores retrievable information for recurring needs like walking or eating, attentional processing handles responses in the present. Attention enables adaptive functioning when no “factory-made” heuristics or engrained habits exist.<sup>6</sup> The moniker *thinking on your feet* illustrates attentional processing. Some examples include reacting to unexpected news, responding to sarcasm, or handling an unforeseen outburst from a customer. Attention filters input information into a response *now*. Attention can be further specified as intentional, conscious cognition, of which one is aware, limited by attentional processing capacity, and controllable at will. In other words, attentional means a) thought and action are willful; b) awareness of the causality between the two; c) attentional resources are needed for the process to unfold; and d) behavior can be initiated and stopped volitionally.<sup>7</sup>

Contrary to attentional processing is subconscious processing. This mind apparatus includes adjectives such as unintentional, autonomous, unaware, and automatic. Automatic means cognitive processing transpires a) without intentional thought; b) autonomously without awareness of the link between stimulus and behavior; and c) without interfering with attentional processing, although there is a debate on this claim.<sup>8</sup> Subconscious processing deals with recognizing patterns from the past and, although valuable, cannot perform attention-needing tasks. This dual mode of cognition is a standard model in cognitive psychology research.<sup>9</sup>

One way to measure cognitive load is with the Stroop test.<sup>10</sup> In this test, words are presented in a color that is either congruent or incongruent with its meaning. For example, the word “blue” is presented in either blue or red. When the word is shown, participants indicate if the color is congruent with the word. Response time for incongruent presentations is used to infer cognitive load, such that longer response times indicate a higher load. Alternatively, a two-task approach can be used. For instance, participants are asked to push a button when they see a light turn on. This takes about 0.2 seconds. Then, they are asked to press either the left or right button when the light appears on the left or the right. This takes about 0.5 seconds. The increase of 0.3 seconds represents the increased load, indicating the cognitive price for having two options versus one.

In the real world, cognitive load is difficult to measure precisely. Extending the two-task approach to a daily activity most people perform – driving – can be illustrative. For example, the driver must perform several tasks simultaneously, navigate the car, react to external stimuli such as traffic signals or sudden obstacles, and engage in optional secondary tasks, such as talking on the phone and eating. The cost to reaction time of performing another cognitive task while driving is about 1.5 seconds. At 60 miles/hour,

this translates to 132 feet of driving with no attentional guidance – equivalent to about two tennis court lengths placed end-to-end.<sup>11</sup>

Given competing demands on attention during driving, it can serve as a real-world test of cognitive load, such that an upward trend in load would correlate with an increase in distracted driving-related accidents. That is, as people pay less attention to processing multiple tasks simultaneously, we might expect a more significant number of traffic accidents. The 2022 U.S. Distracted Driving Report by Cambridge Mobile Telematics (CMT), which collects information from CMT’s DriveWell platform that captures the driving behaviors of millions of people every day, indicates that despite driving fewer trips at reduced speeds, drivers are more distracted than ever. According to the CMT report, distracted driving has increased by nearly 40 percent since early 2020. Likewise, the National Safety Council published data in 2023 that indicate that the total number of fatal distraction-related crashes increased by 11 percent compared with 2020, and overall, this number has increased by 5.4 percent since 2011. These examples and traffic statistics demonstrate how attentional demands can increase the cognitive load in this daily activity. Suppose attention depletion (by increased cognitive load/distractions) was unimportant. Why do most U.S. states have versions of “do not text and drive” laws and prominently displayed cautions on freeways?

Said differently, attention is irreplaceable in the hustle and bustle of the modern world. Because of this, though, observers often overlook its processing limitations. Yet, a long-standing concern in the literature has been related to constrained attentional processing, owing to its narrow bandwidth.<sup>12</sup> It is narrow because attentional sifting of information formed in the distal past during hunter-gatherer days, when behaving adaptively, meant nothing like it does today, not to mention that its broadband is practically inveterate as it changes at an evolutionary snail’s pace.<sup>13</sup> Research on attention depletion shows that “conscious acts of self-regulation occur only rarely in the course of one’s day ... only 5% or so of the time.”<sup>14</sup> The capacity for attention to handle information is remarkably restricted. Given the ubiquity of this finding, it cannot be overstated how important it is to be selective in what we allocate our attention to.

For example, if, by poor choices, we waste attention on nonconsequential tasks (e.g., sweat the small stuff), we might not have enough attention for functions in which it is irreplaceable. Even when we focus on task aspects that matter, we might still lose attention inadvertently if our thoughts wander to other pressing matters because we have too much to manage or to something we would instead think about. For example, you might diligently analyze a report but find your thoughts drifting. A colleague notices your distraction and says, “Please pay attention. You seem miles away.” To which you might respond, “Sorry, I got sidetracked,” or “I was thinking about my family for a moment,” or “I was daydreaming about my upcoming

trip.” Even when focused, environmental stimuli (e.g., phone ringing) can make us “lose our train of thought.” A simple exercise to demonstrate these scenarios would be to close your eyes and imagine just one thing, e.g., an office desk or a photo you like, and try to keep it in your attention for 30 seconds. Then, try to catch how many times other thoughts wander in. You will be surprised. These examples illustrate another limiting aspect of attention – it can only be directed at one object/task/idea at a time. Multitasking is doable, but not by performing multiple tasks simultaneously. Instead, it involves shifting attention from one task to another but not being attentive to both functions simultaneously. As the pioneer of scientific psychology, William James has long noted:

Everyone knows what attention is. It is the taking possession of the mind, in clear and vivid form, *of one out of* [emphasis added] what seem several simultaneously possible objects or trains of thought. ... concentration of consciousness is of its essence. It implies withdrawal from some things to deal effectively with others ...<sup>15</sup>

Classic experiments with the Rubin vase figure showed that attention vacillates between seeing a wine goblet or two faces embedded within the figure. No matter how much attention is put forth, it remains impossible to see both a goblet and the faces simultaneously.<sup>16</sup>

Similarly, if we are reading the book’s title on our shelf, we cannot simultaneously read the title next to it, even if it is in the sphere of peripheral vision. Attention makes information active, as when the human gaze is directed at something. Thus, paying attention to something is equivalent to selecting information. For example, when we force ourselves to read a tedious report, it is given an actionable priority, and something else has to wait for its turn.

Why attention is limited ... is selectivity, and ultimate result of selectivity is being able to think of only one thing at once. Attention may flit back and forth from one idea to the next, but it’s impossible to have more than one thought at the time.<sup>17</sup>

Thus, when we multitask by trying to handle two pieces of information, we oscillate our attention from one source to the other while retaining the instructions for each task in memory. Research on attentional constraints indicates that humans can process five, plus or minus two, pieces of information.<sup>18</sup> For example, imagine you are asked to listen to someone recite 15 numbers, and you must repeat the numbers back. On average, people correctly repeat seven numbers. This represents the limit of our processing capacity. This is akin to fiberoptic cables, which can only process a certain amount of information per unit of time, or to a highway during peak

hours, where there is a maximum number of vehicles it can take before congestion occurs.

Techniques such as ‘chunking’ (basically paired conditioning) or mnemonic ‘hacks’ (using symbols) can be used to navigate around some attentional limitations. These methods consolidate multiple data into a transformed unit of information, but attentional processing capacity remains the same. Instead, approaches to organizing and assimilating information allow us to condense more details into our limited cognitive space. After attention has reached its capacity, one way or the other, cognitive overload occurs, and the utility of new information diminishes as it cannot be processed and performance flattens or decreases. Thus, the often-heard line at work, “I need to finish one more thing,” could be the straw that breaks the camel’s back.

Given the limitations of attentional processing, it would seem unfair to encourage employees to do more if they are fully cognitively loaded. In this case, adding new information for them to process will increase stress. That is, there is a fine line between maximum cognitive load and *overload*, and because it is not easily recognized, it is often missed. Consider, for example, bridges. These have visual signs that indicate the crossing load limit. The signs are visible and unambiguous, and, more often than not, vehicles over the limit do not cross.

The maximum cognitive load in humans, though, is opaque, varies by individuals, and people are generally hesitant to acknowledge the limits of their cognitive processing, especially at work. Engineers readily state that all systems have limits, so why are managers reluctant to recognize human limits? Perhaps as a result of a genuine lack of information or ignorance as an excuse to push employees further because “there are no limits to what we can do.” Although cognitive overload is more challenging to recognize than physical overload, its pain is just as real, although manifested less visibly through gradually mounting levels of anxiety and depression.

Relatedly, information proliferation in the digital age increases the competition for attention as more senders compete for receivers. Because attention is limited, cognitive selection favors information that is more readily received and understood, like natural selection. Because lies proliferate faster than truths, misinformation has an advantage during cognitive overload.<sup>19</sup>

For example, social media algorithms are designed to favor content that engages users the most, which often includes sensational or even misleading information. These algorithms prioritize content that is easy to notice and likely to be clicked on, shared, or commented on, regardless of its veracity. This can spread misinformation, creating a double-whammy – using limited attention to process false information. Moreover, employees are more likely to process information that aligns with their beliefs, known as confirmation bias. In a crowded information environment, individuals might select

communications that confirm their biases because it uses less attentional resources than engaging attentional processing to rethink preconceptions.

Why is all this of concern now if attentional capacity has been limited for eons? Despite the stagnancy of cognitive processing capacity, the demands for attention have mounted. The key paradox is that we are still using the brains of hunter-gatherers to navigate the demands of modern lives. This might be a testament to our cognitive adaptability, but it does not make the problem of a profound mismatch between APC and APD disappear. The gap causes cognitive overload and comes at a psychological cost.<sup>20</sup> As a result, cognitive overload and the psychological cost of working are at an all-time high. The workplace has become a prominent cause of death as a result of psychological maladies.<sup>21</sup> Hence, *The World Health Organization* called for urgent global action regarding the link between cognitive overload and psychological distress.<sup>22</sup>

## The Concept of Human Sustainability at Work

We place these issues and related polemics under the umbrella of human sustainability at work. A summary label is instrumental because social science theories stipulate phenomena of interest, their conditions, and their consequences. Theories are given summary labels that reflect their underlying premises for communication ease. We believe that *Human Sustainability at Work* captures the essence of the content covered in this book.

Human sustainability at work, as we envision it, refers to a broad set of policies and practices that enable employees' long-term well-being and productivity. It encompasses creating workplaces that promote physical and psychological health alongside professional growth and work-life balance. This concept extends to fostering a work culture that supports diversity, equity, and inclusion and aligns with broader environmental and social sustainability goals. Essentially, it's about ensuring that workplaces contribute positively to the holistic health of individuals and organizations and do not deplete human resources.<sup>23</sup>

Why focus on humans? For starters, the number of excess deaths attributed to factors traced back to work exceeds the number of people dying from climate change today.<sup>24</sup> Yet, public attention to the sustainability of the environment far outstrips considerations of how to make working sustainable in the rapidly changing workplace characterized by intensifying job and learning demands. A Google search for "sustainability" returns over 2 billion hits, but less than 0.005 percent of those relate to human sustainability, and none pertain directly to work.<sup>25</sup>

Because human sustainability at work has received less attention in the public discourse than environmental sustainability, yet it is no less critical in our view, we make the case that the environment we work in is as essential as the environment we live in. Our goal is to start shifting the collective

consciousness not only away from the environment but also toward human sustainability at work. Within this research and practice program, we focus on antecedents and consequences of cognitive overload at work, followed by remedies for policy development, leadership practice, and personal change. These fit into a sustainability framework for several reasons. First, if sustainability is defined as the avoidance of depleting a resource needed to maintain a balance of a consequential phenomenon, going forward, then in the framework of human sustainability, employee attentional processing is the resource to avoid depletion. The consequential outcome whose balance is threatened refers to employee psychological health.

Why focus on work? Regarding cognitive processing, work can be distinguished from other domains of life because it is relatively more challenging to set limits compared with private activities and allow time for service, prayer, meditation, and building relationships. We are often in less control of the information processing demands put on us in the workplace. Increased attentional processing cannot be simply avoided or limited because work supports our livelihood. Work demands a level of attentional processing that is necessary and perpetual because it is linked with our economic prosperity and professional identity. Consequently, understanding how to manage cognitive load at work is not just beneficial, but it is essential for maintaining productivity and ensuring subjective well-being in the context where the stakes are high.

Why focus on the psychological cost of cognitive overload? Unlike other stressors that affect people differently, psychological issues stemming from cognitive overload are not optional. For instance, heights, long lines, or crowded spaces induce stress for some but not others. In contrast, if the cognitive system is overloaded beyond the tolerance threshold, then negative consequences will occur, just as they will when any system is pushed past its functional capacity – whether it is a city’s power grid during a heatwave causing blackouts or overworked muscles subjected to excessive exercise without rest causing injury. In each case, an overloaded system will lead to diminished performance, underscoring the importance of managing cognitive overload. For humans, “when ... the overload becomes too great, the only course of action is to shut everything down. For many people, physical or nervous breakdown is the only way out of the impasse.”<sup>26</sup>

Naysayers might point out that things have never been better. Materially speaking, this is correct. Our ancestors would likely envy us for our warm homes in the winter and air conditioning in the summer, plentiful and reliable food supply, immunizations, antibiotics, medical care, state-funded quality education, simply turning on and off the lights, cars that drive themselves, and clouds that store information rather than precipitation. Cognitive overload at work, though, somehow escaped from the path of progress, as illustrated in this statement:

According to the Mayo Clinic, the person you report to at work is more important to your health than your family doctor.<sup>27</sup>

Drawing from evolutionary psychology, others point out that in the last 10,000 years the world population has grown from some 10 million to about 8 billion, which is surely a sign of progress, if the main evolutionary goal is gene propagation. Judging success by reproduction without estimating misery suffered along the way is an incomplete measure though, as numbers do not feel pain. By the yardstick of numeric progress, domesticated cattle are a successful evolutionary story, even though they are miserable creatures given the cruel practices used to multiply them.<sup>28</sup>

Overall, we see our approach to human sustainability at work as addressing one of society's grand challenges today. A grand challenge is a chronic problem with ripple effects on other aspects of society. For example, just as climate change leads to higher sea levels and affects where people can live, unsustainable work practices can disrupt productivity, upset family life, and disturb the balance between our jobs, personal lives, and social existence. Most adults spend a large portion of their day working, so helping create sustainable environments in which we work is as critical as creating a sustainable environment in which we live. Solving the burning issues that comprise the landscape today is vital to building a better world of tomorrow.

Public pressure has led policymakers to impose costs on businesses for the harm they create to the natural environment, and several grand challenges in organizations have received augmented attention, such as corporate social responsibility and gender/racial inequality. Yet, the psychological mores experienced by overloaded workers have skyrocketed, and comparatively little has been done to address them. It is a complex undertaking, but progress is possible with a coordinated effort and knowledge from various fields. Drawing from multiple disciplines and data sources, we present how human sustainability at work can be addressed. Given the relative novelty of this topic, definitive answers are beyond reach now. Instead, we clarify the questions and reduce uncertainty regarding human sustainability at work and how to approach it.

## Notes

- 1 Pinker, S. (2019). *Enlightenment now: The case for reason, science, humanism, and progress*. New York, NY: Penguin Books.
- 2 This does not mean managers and organizations pull the trigger but that they enabled workplace factors contributing to work-related suicides.
- 3 For more on the functioning of neurotransmitters, see Lee, B. H., Hille, B., & Koh, D. S. (2021). Serotonin modulates melatonin synthesis as an autocrine neurotransmitter in the pineal gland. *Proceedings of the National Academy of Sciences*, 118(43), e2113852118. See also, Lembke, A. (2021). *Dopamine nation: Finding balance in the age of indulgence*. Penguin.



- 4 Stajkovic, A.D., Lee, D., Greenwald, J. M., & Raffiee, J. (2015). The role of core confidence higher-order construct in self-regulation of performance and attitudes: Evidence from four studies. *Organizational Behavior and Human Decision Processes*, 128, 29–48. See also, Carver, C. S. & Scheier, M. F. (1998). *On the Self-Regulation of Behavior*. New York, NY: Cambridge University Press.
- 5 See also for various definitions of burnout: Freudenberger, H. J. 1974. Staff burnout. *Journal of Social Issues*, 30, 159–65; Maslach, C. & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2, 99–113; Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson S. E. 1996. The Maslach Burnout Inventory—general survey. In *MBI Manual*, ed. C. Maslach, S. E. Jackson, & M. P. Leiter, pp. 19–26. Palo Alto, CA: Consulting Psychologists Press. 3rd ed.
- 6 Tversky, A. & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131.
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- 8 Shiffrin, R. M. & Schneider, W. (1977). Controlled and automatic human information processing: II. Perceptual learning, automatic attending and a general theory. *Psychological Review*, 84, 127–190.
- 9 Evans, J. St. B. T. (2007). Dual-processing accounts of Reasoning, judgment, and social cognition. *Annual Review of Psychology*, 59, 255–278; also, Evans, J. S. B. & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, 8, 223–241.
- 10 Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18, 643–662; also, Scarpina, F. & Tagini, S. (2017). The Stroop color and word test. *Frontiers in Psychology*, 8, 1–8.
- 11  $(60 \times 5280) \div (60 \times 60) = 88$  feet per second.
- 12 Kahneman, D. (1973). *Attention and effort*. Englewood Cliffs, NJ: Prentice-Hall.
- 13 Postle, B. R. 2015. *Essentials of Cognitive Neuroscience*. England: John Wiley & Sons.
- 14 Baumeister, R. E., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998, p. 4). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74, 1252–1265.
- 15 James, W. (1890). *The Principles Of Psychology, Volume II* (pp. 403–404).
- 16 Rubin, E. (1915) E. *Synsoplevede figurer*. Copenhagen: Glydendalski.
- 17 Rosenbaum, D. A. (2014, p. 7). *It's a Jungle in There: How Competition and Cooperation in the Brain Shape the Mind*. New York, NY: Oxford University Press.
- 18 Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63, 81–97.
- 19 Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, 359, 6380, 1146–1151.
- 20 It is largely irrelevant to this conversation when to start and end counting the days of hunter-gatherers. Some suggest it is about 2.5 million years ago when anatomically modern humans formed. However, because there were more than one species of humans then, others suggest the start of *homo sapiens*, around 200,000 years back is a better beginning because all *homo sapiens* today stem from one woman, Lucy, our common evolutionary mother. These differentiations are mostly inconsequential to our conversation because even the earliest time to begin counting, around 200,000 years ago is still so far removed from today that the point or a large gap in human functioning stays. Said differently, the difference in human functioning between 550,000 and 500,000 years ago is probably the same in magnitude as is the difference between 250,000 and 200,000 years ago. The environment was virtually identical when it comes to cognitive load of humans at that time, regardless of how we call them today.

- 21 Stress, overtime, and disease contribute to 2.8 million workers' deaths per year, reports the UN Labour Agency. *UN News*. Retrieved from: <https://news.un.org/en/story/2019/04/1036851>.
- 22 Neira, M. (2019), March 15. Towards a healthier future of work. International Labour Organization. Retrieved from: [www.ilo.org/global/about-the-ilo/how-the-ilo-works/departments-and-offices/governance/labadmin-osh/events/world-day-for-safety/33thinkpieces/WCMS\\_681618/lang-en/index.htm](http://www.ilo.org/global/about-the-ilo/how-the-ilo-works/departments-and-offices/governance/labadmin-osh/events/world-day-for-safety/33thinkpieces/WCMS_681618/lang-en/index.htm).
- 23 Similar terms have been used in recent literature, such as building sustainable organizations and the human factor. When we wrote the proposal for this book to the publisher (December 2022), we were unaware of other uses of the term human sustainability. As we continued with research for and writing of the book, we found out that, in his book “Dying for a Paycheck” Jeff Pfeffer uses the term human sustainability in a similar manner to us. Pfeffer also mentioned another source that used this term before him. By the end of writing the book (end of 2023), we have become cognizant of the use of this term in recent sleep research, briefly suggesting that the amount and quality of sleep enhance human sustainability and vice versa. See Barnes, C. M. & Wagner, D. T., (2023). Leading for human sustainability: An extension of restricted employee sustainability theory. *Research in Organizational Behavior*, 43. This is to say, we do not claim parenthood of this term but use it to portray an overarching theme of the book, as we defined it.
- 24 Goh, J., Pfeffer, J., & Zenios, S. A. (2016). The relationship between workplace stressors and mortality and health costs in the United States. *Management Science*, 62, 608–628; also, Reynolds, M. (2022). A project to count climate crisis deaths has surprising results. *Science*, January 18, 2022.
- 25 Approximately 2,120,000,000 results for “sustainability” and only 78,300 for “human sustainability,” and virtually none to human sustainability at work. Search: October 7, 2022.
- 26 Margin Reset Focus Booster. March 28, 2023. (p. 58). Retrieved from: <https://thefocuscourse.com/wp-content/uploads/2023/04/Focus-Booster-The-Margin-Reset-Mar-28-2023.pdf>.
- 27 Pfeffer, J. (2018). How your workplace is killing you. *BBC*. May 2. Retrieved from: [www.bbc.com/worklife/article/20180502-how-your-workplace-is-killing-you](http://www.bbc.com/worklife/article/20180502-how-your-workplace-is-killing-you).
- 28 Pollan, M. (2007). *The omnivore's dilemma: A natural history of four meals*. Penguin.



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# PART 1

## How We Arrived at Cognitive Overload



FIGURE I.1A Hunter-gatherer



FIGURE I.1B Agriculture



FIGURE I.1C Industrialization



FIGURE I.1D Cognitive Overload

Source: Images by OpenClipart-Vectors, Tumisu and Gordon Johnson from Pixabay.

The discrepancy elaborated on in Part I is the non-trivial gap between the capacity of the human mind, which evolved during hunter-gatherer days, and the skyrocketing demands on attentional processing at work today. We explain how hallmark events in human development gradually increased the cognitive load of making a living (see the illustration above) coupled with the failure of leadership cottage industry and organizational leaders in contemporary organizations.

# 2

## INCREASE IN COGNITIVE LOAD THROUGH EPOCHAL STAGES OF HUMAN DEVELOPMENT

In this chapter, we unpack how cognitive load sprouted through the three major epochs in human development: hunter-gatherer, agricultural, and industrial. The main argument is that each stage brought increasing attentional processing demands needed to make a living. Cumulatively, they contributed their share to the skyrocketing cognitive load today. This framework draws primarily from Jean-Jacques Rousseau's essay on the development of human discourse. Though he focused on "how growth of civilization corrupted natural goodness and increased inequality between men," we provide a brief chronology of critical epochs focusing on their distinct ways and means of sustenance and how that affected the levels of thinking necessary to make a living.<sup>1</sup>

### Before now

**2.5 million years ago Hunting and gathering.** Hunting game, gathering what is on the ground, being out in nature, no particular schedules aside from the need to eat/drink, evening fire-chats, and story-telling. Little else is expected. That is, no permanent housing and the absence of accumulated wealth made concerns over wealth distribution obsolete, and the non-existence of nation-states precluded qualms over its whims.

**12,000 BCE Agriculture.** The new goal is a stable food supply through the domestication of plants and animals. It assumes organized work, i.e., planning, sticking to schedules, and a multifaceted division of labor. In short, get land, obtain seeds, plant them, pluck weeds, harvest, store, and protect while continually worrying about the weather and health to be able to do it all, and this excludes the livestock part of agriculture. Because humans had not

done anything like it for the ~2 million years since they evolved, the new tolls were physiological (e.g., arthritis, coronary diseases), psychological (e.g., stress, anxiety), and social (e.g., slavery, pampered elites).

**250 years ago Industrialization.** Work associated with the Industrial Revolution provided more choices and luxuries in life than any time prior by a large order of magnitude. The other side of that coin shows an unprecedented use of human attentional processing (i.e., conscious, purposeful attentional thinking), representing the most significant cognitive drain compared with any other time before this epoch. Because most factories were in urban areas, workers had to move to unaffordable cities and live in demeaning ghettos, suffer from diseases of urban living like cholera, put up with dangerous factory conditions, were abused by owners and managers, and put in a six-day work week with 15-hour days, including children.

After reading these descriptions, it is hard to avoid an inference that the amount of thinking necessary to make a living and handle work in these stages of human development gradually increased. That would be expected, but one point that puts a wrench into the story is that today's humans are stuck with hunter-gatherer brains. Our brains have not fundamentally changed since about ~2.5 million years ago. Tools and times are different, but the deep crevasses of the human brain remain the same. Yet, adaptational demands to make a living today are exponentially more complex. There were benefits and costs to the three epochs of human development. In this chapter, we focus on each price in terms of increasing cognitive load or mounting attentional processing needed to make a living.

## **Major Epochs of Human Life and Work and Their Contribution to Cognitive Load**

### ***Hunter-Gatherer***

Many feel strangely at home sitting around a campfire with friends and family in the woods, fishing, or walking in nature. This is because our brains evolved to do what hunter-gatherers did. As far as we know, structures and functions of the brain have not morphologically evolved since those days. The last common ancestor of chimpanzees and humans traces nearly ~6 million years. We were essentially an animal of no particular import until ~2.5 million years ago when anatomically modern humans (meaning morphologically identical as we are today) evolved in Africa. During this time, humans secured sustenance by hunting and gathering.

We woke up when we got hungry. We stood up and strolled through the pristine forest to find food. Along the scenic vistas, we picked up nuts, fruits, and mushrooms and hunted prey. We then went down to the river to catch fish. We set up a camp at dusk and shared all we collected, hunted, and fished that day. All contributed to the effort, as it made the trek easier.

There were no leftovers because they could not be stored. Then, we bonded around the campfire. We did it all again the next day. It was a bit rougher in the winter, but due to little unpredictable change, the tribe was usually prepared. This season offered more social time.

Hunter-gatherers had no impact on their environment. Vegetation was collected, animals hunted, and fish caught all lived in their natural habitats. This meant an unstable food supply but no purposeful effort to breed anything. There was no income and hunt-quotas, and there was a need to bring some game to the market, sell it for profit, and invest wisely. No permanent housing meant less consistency compared with sedentary lifestyles. Still, the nomadic way of life allowed for raising camp where the food was found, perhaps even at a beautiful lakeshore.

The cognitive machinery did not develop beyond these needs because it was not needed. The logic is, ostensibly, why do more when an extant lifestyle supports us? Similar activities filled the days; the absence of significant life disruptors precluded the need to learn new skills, and genes change at an evolutionary snail's pace.<sup>2</sup> Thus, our existence as hunter-gatherers continued for about 2.5 million years until ~12,000 years ago and the onset of an agricultural way of life. There were 208 years of hunting-gathering for every year of agriculture.

A critic might argue that 2.5 million years is plenty of time to change brain structure and functioning. On the surface, it certainly looks that way. However, this is untrue according to the study of genetics. Briefly, genes do not change quickly because the immediate environment changes somewhat. For example, just because you are in the reality game show *Survivor* and maybe starve for a while, it does not mean your participation in the show will change your genetics to accommodate a temporary lack of food. According to that faulty logic of genetic flexibility, when you come home and pig out, your genetics would change again to accommodate excess in the other direction. Genes change in the now only due to severe external moderation (e.g., nuclear radiation) that distorts their structure, chemistry, and function. Otherwise, we need random mutations and accordant natural selection, which takes a long time to change the genes.

Another skeptic might argue that our brain during-hunter-gatherer days might have been developing in anticipation of what was to come. This is also unlikely because natural selection only selects *in-out* based on the *fit-misfit* in the circumstances impinging on life over time, not on hypothetical future scenarios – arguably, nor would we want that. In addition, the brain is the largest usurper of human resources, given its percentage volume in the body and percentage of calorie consumption, and it would not be adaptive to waste such a considerable expense of energy on future immaterial speculations, which is more of a spiritual argument.

In conclusion, the human brain adapted to a hunting-gathering lifestyle, characterized by people's intimate relationship with their environment, which



did not change much for a long time.<sup>3</sup> This meant that most thinking and behaving were guided by automated, not attentional, processes. Intuition automatically recognizes patterns that have worked in the past. This saves attention because it deploys automated processing to handle repeated patterns. Intuition is based on heuristics, or mental models developed for known circumstances. Heuristics are triggered when a similar situation or environment from the past is encountered in the present. Most hunter-gatherer behavior unfolded via habits or customary ways of doing things.<sup>4</sup> Because the environment was simple, stable, and predictable, attention processing demands (APD) remained low. Because most cognitive processing was automated, there was no need for high attentional processing capacity (APC). Thus, we presume cognitive load was low, or  $APC - APD \geq 0$ .

Though agriculture drastically changed what it takes to make a living, as described next, there was not enough time on the evolutionary timeline for gene mutations to significantly alter our brain morphology in 12,000 years, compared with the previous 2.5 million years of relative steadiness. If this timeline was converted into one day, agriculture represents only the last 6.9 minutes.<sup>5</sup> Maybe our time as hunter-gatherers lasted so long because our ancestors were farsighted to feel the imbalances looming in agricultural divisions. Either way, hunter-gatherers were the last to suffer a boring lifestyle or the last to savor relative peace and tranquility of life.

## ***Agriculture***

Despite agriculture's reasonable goal of a stable food supply, behaviors, and social constructions accompanying its development made life more involved and draining. It sped up the complexity of existence far beyond the hunter-gatherer days. Even God, in the Old Testament, designated land toil as a form of human punishment, signifying the arduous nature of this novel undertaking. Agriculture introduced new and attractive products, such as sugar, and the despair of slavery that was primarily used in sugar cane production. Thus, a complex picture emerges when agriculture is evaluated by measures including economic benefits and human misery.

Hunter-gatherers and farmers faced environmental concerns – floods, droughts, storms, plagues – but, arguably, farmers had to deal with more novel issues. If you did not own land, then slavery or some other form of subjugation in the feudal society was likely. Acquiring land requires accumulated capital, which is challenging to do without land. Conquering someone else's property by fight or fraud were other alternatives. If you were skilled enough to acquire land – either by socially creating status categories (e.g., priests, aristocracy), strength (e.g., warriors, local bullies), or cunning (e.g., con artists), then work was, arguably, just beginning. From dawn to dusk, farmers plowed fields, sowed seeds, hoped for good weather, pulled

weeds, harvested, transported, stored, protected the harvest, and tried to sell any surplus. Prematurely losing a spouse was a kiss of death for either gender, let alone for children.

In contrast to hunter-gatherers, farming had a notable impact on the surroundings. Instead of hunting and gathering for several hours, which could be fun, and spending the rest of the day resting and socializing, farming took the entire day to work the land and handle domesticated animals. Thus, permanent housing became the norm, leading to settlements. These localities led to forming social identities and categorizations in terms of nation-states (e.g., us versus them at some level of analysis), social status (e.g., ruling elites *v.* plebs), religion (e.g., priesthood *v.* gentiles), and economic wealth (e.g., landowners *v.* hired laborers and enslaved people), to name a few. These were fundamental categories but socially created, as none of them is found in nature, meaning more than a natural adjustment to them was necessary.<sup>6</sup> Agriculture did not invent slavery, but it boosted it, and it started the placement of women at home for a long time to come.

Did agriculture deliver? Given the unprecedented changes required in the quest for a better life, did agriculture deliver? The idea behind agriculture was solid – plan ahead, execute the strategy, and reap the rewards of steady food and housing. Compared with the ascetic life of hunter-gatherers, the settled-down lifestyle of farmers appears to be a more tranquil way of life, and the hereditary aristocracy and other landowners had it made. However, the shift from a hunter-gatherer lifestyle to agricultural societies introduced many new variables for individuals and communities. This demanded unprecedented levels of cognitive processing to succeed and thrive.

Overall, farmers had to cognitively process significantly more than hunter-gatherers but with the brains of hunter-gatherers, which created imbalances. The usual environmental worries were augmented by scheduling concerns, such as the seasonal timing of planting and harvesting. Economic complexity exploded with the introduction of property rights and various markets for handling surplus. Yet, the social structures that had previously supported communal sharing of resources were shattered by social stratification. On top of this, people were faced with decisions about joining the war party or not, choosing a religion, staying loyal to one's identity and social category or looking over the hill, and picking a winning political affiliation or the one they believed in, all adding to the processing burden. The elites were busy managing properties and creating rules to maintain a semblance of civil society when wealth and resources were unequally shared. This ensued in the dynamics of power, control, and political theatrics.

All this could have been seen as a standard development curve if it was accompanied by an accordant increase in APC. Yet, there is no evidence that intelligence went up during this time. This is relatively unusual, if not irrational, as, metaphorically speaking, we do not fly a plane from Chicago to

China if it can fly only to Alaska. Though we recognize the interpretation complexities and somewhat crude measures, there is evidence that brain volume has been shrinking from the hunter-gatherer days to today.<sup>7</sup> Connecting the dots, the advent of agriculture might have created living and working conditions where the APD exceeded our APC, resulting in a deficit ( $APD > APC$ ), or an early form of cognitive overload ( $APC - APD < 0$ ). The amount of information and complexity of interactions needing to be processed to live and work grew, but our brain's volume – and possibly processing capacity – did not increase proportionally. This necessitated the development of new strategies to manage the increasing cognitive processing demands in society. These were both a blessing and a bane.

The advent of bureaucracy, on the one hand, facilitated the division of labor by distributing tasks across multiple individuals. On the other hand, those with education and in positions of authority developed and oversaw these systems, rather than the farmers who engaged in the daily labor. Chances are the former group tilted the created institutions to their advantage.

The development of written language and the practice of bookkeeping (today called accounting) were significant advancements for disseminating and recording information. However, the opportunity to learn and use these tools was not uniformly distributed. Access to knowledge became a delineating factor, creating divisions not solely based on physical effort, as in the past, but also on the accessibility of education and training. This was a departure from the egalitarian nature of hunter-gatherer societies, where success was related to natural/given skills.

Part of these divisions was based on greed, but part of it was based on the beginning of societal separations based on individual differences, where the smarter learned more, the stronger worked harder and faster and got to the resources first. Though personal differences might have been one of the causes of social divisions, acknowledging it does not make the problem disappear. If anything, when initial rifts created by individual differences were cemented by the rules of hereditary, the situation progressively worsened. One of the first remarks Thomas Jefferson made upon his arrival to France was that books had informed him of many social classes, but life in France then consisted of only two: “wolves and sheep.”<sup>8</sup> Social layering effects exploded during the French Revolution, indicating both discontent with the distribution of resources and fermenting cognitive dissonance about witnessing polarization daily and having to “digest” it.

The nature of farming brought new medical ailments to contend with. Because the physical demands of farming were intense – involving long hours of repetitive, strenuous tasks that led to physiological wear and tear – skeletal remains from agricultural communities frequently showed signs of arthritis and spinal disorders. Compared with hunter-gatherers, who practiced a more significant variety but lighter physical activities and over diverse terrains, farming is biomechanically more effortful and monotonous.

Further, taking care of livestock increases interactions between humans and domesticated animals, increasing the transmission of diseases. Living near livestock, often with limited sanitation, opened new pathways for pathogens to jump species, leading to uncommon epidemics when people lived a more nomadic lifestyle.

The elites of agricultural societies were not laboring in the field but faced their own challenges. The complexity of social maneuvering requires different cognitive processing and emotional labor. They engaged in the intricate dance of rivalry management and alliance-building, balancing the need for respect and authority with the dangers of becoming too feared or disliked. This required a keen understanding of human behavior, a strategic mind, and competence to negotiate and influence, which, although less physically demanding than farming, involved other forms of stress and demanded considerable mental agility and social acumen.

Organized religion during agriculture fostered social harmony within the group but much mayhem between groups. Hunter-gatherers lived in bands with blood ties. Thus, food leftovers were gifted when they met other groups, which was instrumental in fostering non-blood-related marital unions. Courtship was preferred to conquest. Compare that to religious strife across the globe. The only wealth the hunter-gatherer family could accumulate was credit with neighbors (called social capital today) in the hope of returning the favor during a time of need. Ask the Protestant Huguenots of France how they fared at the hands of their Catholic neighbors, or more recently, the Catholics of Northern Ireland from their Protestant colleagues and coworkers.

Finally, the shift in lifestyles to agricultural practices altered the diet. Hunter-gatherers consumed a diverse range of plants and lean meats, depending on the season and geography. This diet was high in fiber, vitamins, and proteins and was low in fats and simple carbohydrates. In contrast, agricultural diets relied more on domesticated animal products, grains, and alcohol, which became more accessible with the cultivation of barley and wheat used to brew beer. The diet change had health and psychological implications both for farmers and elites.

The reliance on a limited range of food sources led to nutrient deficiencies. The increased intake of saturated fats from domesticated animals and reduced dietary diversity contributed to a rise in cardiovascular diseases. Alcohol consumption became a staple in many communities, and excessive drinking caused accumulating medical problems and social and family issues. Further, storing harvested grains and animal products introduced spoilage, increasing foodborne illnesses. These changes, alongside a more sedentary lifestyle, contributed to a shift in the health profile of agricultural societies. The wealthier classes, interestingly, with greater access to food and alcohol, often suffered from health issues to a greater extent than the working class,

as their lifestyle included less physical labor yet more consumption of foods high in fats, sugar, and alcohol.

If we return to the question of whether agriculture was worth it, we can see that it depends on who is asked and how it is measured. In an absolute sense, food quantities increased. However, its distribution varied greatly among classes; many peasants were hungry, while the landowners and nobles flaunted excesses. Supply brought to the market high-demand products, such as sugar and tobacco, which fetched price premiums. However, producing these goods fueled slavery. It is easier to count coins than human misery, but what picture of reality does that reveal? One too distorted to accurately evaluate a stage of human development.

We are unsure if this question can be answered without considering a denominator. The next question then becomes, at what cost of human suffering? When economists bring up simple, though not simplistic, comparisons of inanimate entities – money, supply, and demand – the pain and suffering of the human factor are typically overlooked. Would a grieving war widow or the mother of a child dying child from cholera due to unsanitary living conditions agree that life was better after the onset of agriculture? What value do you put on having bacon for breakfast, and how do you weigh this against exposure to pigsty-generated cholera? How about a young soldier who goes to war for his king but returns disillusioned by the death of his comrades and the loss of his limbs, to say nothing of not being able to marry because he cannot manage the farm? The problem with questions in the abstract is the ignorance of the reality of daily lived experience.

There is little doubt in our minds about the necessity of the inclusion of psychological variables in any measurement of betterment. Having said that, it is still difficult to ascertain if the promise of agriculture was fact or fantasy because many outcomes are measured on different metrics. Some are economic (e.g., food supply), but other consequences are social (e.g., exclusion), moral (e.g., slavery), and emotional (e.g., pain from wars). How do we put these outcomes on the same scale? Although we acknowledge the scale issue, we do not have an empirical answer. We are, however, ready to conceptually surmise that having more to store in memory and new choices to cognitively process and make, as well as increased worry about what the future will bring economically, socially, and medically, was much more cognitively demanding on our attentional system compared with our hunter-gatherers days. Thus, we surmise that the onset of cognitive *overload* first occurred during the agricultural era.

### ***Industrialization***

This epoch grew out of the critical economics aspect of agriculture, a surplus of products that could be monetized in the marketplace. If all that was produced were consumed, then there would be no excess capital to fuel

investments, eventually leading to the Industrial Revolution. Although accumulated wealth existed before industrialization, much of it was squandered on the lavish pomp and circumstance of the aristocratic lifestyle or their wars. However, a new breed of capital owners envisioned a different use for their wealth. They sought to multiply profits within a free and global marketplace. This ambition catalyzed the Industrial Revolution, paving the way for capitalism to emerge as a new, dominant economic system.

While listing every triumph of the United States (U.S.) industrial and business evolution would be repetitive, its impact is undeniable. The U.S. has seen an unprecedented rate of progress since the 1880s, both economically and in terms of living standards. This period witnessed the birth of inventions and industries that changed daily life and business operations. For instance, domestic life was transformed by inventing appliances like refrigerators and washing machines, while air conditioning and alternating current (AC) systems reshaped work and home environments. Advancements in oil production and refining revolutionized the energy sector, and transportation entered a new era with the completion of the transcontinental railway, the inception of serial car production, and the rise of commercial aviation. In computing and technology, the development of microprocessors led to the widespread use of personal computers, accelerating business and scientific endeavors. The U.S. became a hub for medical innovation and higher education. The drive toward space exploration marked a leap in human ambition and capability, just as advancements in sophisticated weaponry shifted military dynamics. Each of these developments was a milestone in its respective field. Still, they were also a testament to the powerful combination of capital, ingenuity, and entrepreneurial spirit that characterized the American approach to industrialization and economic expansion.

Given these unprecedented changes, did industrialization deliver? To answer this question, we consider the pros and cons of the early industrialization in the U.S. from the 1880s to before World War II. We follow this up with a mid-20th-century depiction of work and finish this section analyzing relatively recent trends in the contemporary business world.

### ***Early industrialization in the U.S***

To illustrate the processing demands, imagine stepping back into the dawn of U.S. industrialization as an emerging business talent. Your eyes are set on outperforming the competition. You are ambitious and ready to push boundaries to secure your place as a Titan of industry. But, there is a twist – your cognitive system has not evolved since your hunter-gatherer days. Your ancient attentional capacity must now be sufficient to aid you in an era brimming with innovation and relentless business pursuits. The following stories illustrate the mental demands required to thrive amidst this booming economy, where every decision could catapult you to success or consign you to the footnotes of history.

Cornelius Vanderbilt (1794–1877) began his empire by controlling ferry routes in New York before expanding into railroads, eventually consolidating much of the Northeast’s rail lines to form the New York Central Railroad system. He was in fierce competition daily with John D. Rockefeller (1839–1937), the oil tycoon whose Standard Oil Company came to symbolize the power and influence of monopolies. Their rivalry epitomized the competitive nature of the era and the necessity of strategic thinking. During the late 1860s, Vanderbilt’s railroad empire was instrumental in transporting oil for Rockefeller. As Standard Oil grew, Rockefeller negotiated a better shipping rate by leveraging his high traffic volume. Vanderbilt was forced to engage in complex negotiations, balancing the need for competitive pricing to keep Standard Oil’s business against the necessity to maximize his railroad profits. The cognitive demand intensified when Rockefeller decided to transport his oil through pipelines, looking to cut costs as Vanderbilt increased freight prices. Vanderbilt now had to rethink his strategy. This rivalry pushed both men to adapt and strategize, requiring them to anticipate each other’s moves, negotiate with foresight, and calculate the long-term implications of their decisions. Their competition demanded high levels of cognitive processing, from solving complex problems to decision-making under uncertainty, all taxing on the attentional capacities of even these brilliant businessmen.

J. P. Morgan (1837–1913), a financier of rare acumen, saw potential in the feuding currents of Thomas Edison’s direct current (DC) and Nikola Tesla’s alternating current (AC). With his backing of Edison’s Electric Light Company and the later merger into General Electric, J.P. Morgan shaped America’s electrical landscape and set the stage for the “War of the Currents” that would electrify the nation. Although J.P. Morgan initially invested in Edison’s technology, the limitations of DC in terms of distance and efficiency became apparent. When Tesla’s system showed promise, J.P. Morgan had to reassess. He needed to understand the scientific and technical nuances of electrical systems, anticipate the market potential of each technology, assess the risks and benefits of shifting his investments, and calculate the economic implications. Moreover, he had to manage interpersonal dynamics, balancing Edison’s business acumen with Tesla’s genius ideas. This required a high degree of cognitive processing. For J.P. Morgan, the mental load was imposed from making each decision and continuously learning about and adapting to a rapidly evolving technological landscape.

Henry Ford (1863–1947), an innovator with an eye for efficiency, revolutionized the automobile industry with his introduction of the assembly line, dramatically reducing manufacturing costs. This, however, was faced with pushback from the Association of Licensed Automobile Manufacturers, who claimed Ford infringed on their patent by “making cars.” Ford decided to fight the case. The lawsuit, which lasted eight years, was cognitively

demanding because of the legal wrangling and because Ford had to continuously innovate to keep his company moving forward under the looming cloud of potential legal defeat. The eventual victory in 1908 validated Ford's automotive design and affirmed his vision for affordable automobiles, cementing his legacy and altering the course of the automobile industry.

The confectionery sector was no less intense, with Milton Hershey (1857–1945), the pioneer of milk chocolate, and Frank Mars (1883–1935), the creator of the Milky Way bar, engaged in bitter rivalry. Initially, Hershey provided loans to help start Mars's confectionery business and produce the Snickers bar. Hershey had to evaluate the potential return on his investment against the risk of financing a future competitor. Later, Forrest Mars, Sr., estranged from his father Frank, joined forces with Bruce Murrie, son of a Hershey executive and with a stake in Hershey company. Forrest Mars Sr. and Bruce Murrie had to navigate the complex dynamics of their families' legacies while launching the iconic M&Ms, which competes with Hershey's chocolates. Their cognitive load intensified from the onslaught of strategic business decisions they had to make and from the need to balance family ties.

The beverage and food industries witnessed their own increased demands with the rivalry between Coca-Cola and Pepsi. Likewise, within the Kellogg Company, sibling rivalry threatened its foundation, reflecting the complexities and cognitive demands that emerge when family and business mix. The fast-food industry burgeoned with competition such as McDonald's, led by Ray Kroc, against Burger King and Taco Bell for dominance. Meanwhile, Julius Schmid, an entrepreneur, navigated the controversial and taboo market of contraceptives. His battle wasn't just against competitors; it was against societal norms and legal restrictions, yet he succeeded in selling thousands of condoms daily during a time when such products were deemed illicit.

Together, these real-world stories illustrate that to succeed in this era requires an extraordinary capacity to synthesize a myriad of factors – economic trends, technological advancements, competitive behaviors, and consumer preferences. Victory depended on navigating these with foresight and an innovative mindset, turning cognitive challenges into industrial and commercial prowess triumphs. This is not to say it was all milk and honey. If agriculture brought worries about the future, the Industrial Revolution put stress on steroids. People now had to worry about the availability of gainful employment, economic recessions, and depressions, the possibility of abruptly losing jobs, and figuring out how to pay for descent education to compete.

In the country, with the expansion of the West, jobs were available with the railroads, mining, and forestry. The openings needed mobile laborers as new work locations increased, and the end of the Civil War produced many flexible applicants.<sup>9</sup> The economic depression of 1890 added to unemployed and migratory workers, failed entrepreneurs, and bankrupt con artists. Many unemployed stayed in cities as a dollar could buy more than in rural areas. Migratory workers were not welcome in every community due to Saloons,



prostitution, and gambling that came with them, but they were respected for their hard work. Those unemployed in cities were seen as a burden on the local community. The Great Depression of 1929, plus the Midwest dust storms, added a group of downtrodden unseen before in the U.S. – entire families, single women with children, runaway youth, drug users, and the mentally ill (LaMarche, 2020). Steinbeck’s (1939) novel *The Grapes of Wrath* illustrates these circumstances, and Sinclair’s devastating expose (1906) *The Jungle* portrays economic disparity, social despair, and moral degradation some workers went through to survive in the burgeoning urban jungle of the industrial era in the U.S.

### ***Post-World War II industrialization***

As the economy and jobs expanded due to war demand and the Great Depression finally ended, jobs boomed. Similar to early industrialization in the U.S., the processing demands of the highly successful remained considerable and multifaceted. For instance, Ray Kroc (1902–84), credited with the expansion of McDonald’s from one restaurant into the world’s most successful fast-food chain, faced significant challenges in standardizing the McDonald’s experience, ensuring each franchise delivered the same level of quality and experience. This required a novel approach to supply chain management, employee training, and operations. As McDonald’s grew, Kroc had to navigate the changing fast-food industry, adjusting strategies to stay ahead while also scaling the business internationally.

Walt Disney (1901–66) pioneered animation and theme park design, which required levels of creativity to envision experiences that had never been created before. Each of Disney’s endeavors involved uncertainty, requiring him to continuously assess risks, anticipate problems, and devise solutions. Disney’s diversification into television, merchandise, and theme parks illustrates his ability to think beyond today and plan for future expansion and cross-branding.

Sam Walton (1918–92), founder of Walmart, revolutionized the retail industry with large-scale discount department stores. His focus on logistics and distribution, exemplified by his innovative use of inventory management, required a nuanced understanding of operational efficiency. Walton’s philosophy of offering lower prices required a nuanced and complex approach to cost-saving without compromising quality. The cognitive demands transcend technical expertise; he also had to have foresight into the socioeconomic changes of the era and an understanding of the cultural shifts toward suburbanization and the growth of consumerism to strategically locate Walmart stores to capitalize on trends. Kroc, Disney, and Walton each faced elevated cognitive demands daily that required them to solve problems, innovate, and foresee the future trajectory of their ever-changing industries. They had to continually learn, adapt, and make decisions that would affect both their businesses and the broader economic landscape.

Meanwhile, jobs in manufacturing experienced an unprecedented expansion. Goods were produced, sold, packaged, and shipped. People with little formal education had recourse in industrial jobs, which required little in the way of elevated attentional processing. Many who had served or contributed to war-time production found new opportunities on assembly lines that mass-produced anything from electronics to automobiles. This era was characterized by a strong union presence, resulting in stable wages and conditions for a growing workforce. The promise of a shot at the ‘American Dream’ prompted many to live near industrial hubs. Although jobs were labor intensive, they were mostly repetitive and adhered to strict procedures. Employees knew what had to be done and how the outcome looked. Once skills were acquired, performance was largely a matter of persistent effort. There was a learning curve but a reachable asymptote. Hard work was compensated with growing prosperity and the ability to afford homes, cars, and a lifestyle that had eluded previous generations. The post-World War II Industrialization era reshaped the economy and social fabric, as work became a cornerstone of identity and economic progress.

### ***Today***

Compared with what most employees used to do in stable industrial jobs of the early 20th century, roles today are characterized by employees’ ongoing self-regulation in light of transformations in the macro business world and more meso-organizational realities. Most jobs today involve technological integration, remote connectivity, and an emphasis on knowledge-based skills. Artificial intelligence and automation are reshaping traditional roles, leading to a demand for jobs that require complex problem-solving and adaptability to rapid changes. The rise in the gig economy has ushered in an era of freelancing and short-term contracts. Remote work, propelled by advancements in communication technology and catalyzed by the global pandemic, has become a mainstay, allowing for attempts at work–life integration and/or balance. Prior work practices cannot be drawn upon to solve today’s problems because they have been outpaced by change. Today’s jobs emphasize creativity, collaboration, and a focus on continuous learning to keep pace with the ever-evolving technological frontier. The conglomeration of job demands and the pace of change in contemporary organizations are unprecedented.<sup>10</sup>

In terms of macro-economic forces, businesses are progressively shaped by transnational interdependencies. What happens in one part of the world affects employees on the other side, and numerous global transactions get lost in translation. These new international economic and cultural realities place a premium on organizations to adapt and on the cognitive processing of individual employees to fulfill increasingly complex and amorphous occupational roles. Despite many benefits of global interconnectedness, adopting shifting missions and customized responses is sometimes complicated for employees to understand, let alone exert functional control over them fully.

Employees in contemporary organizations – in addition to traditional economic dilemmas of whether to be a specialist or generalist, compete or cooperate, be efficient or creative – also face a multitude of psychological and social dualities. New psychological perturbations of the workplace include mindfulness, pursuing self-interest while being emotionally intelligent about the needs of others, fostering a learning mindset while shunning a fixed learning style even if it worked for us before, and being appraised of the latest research, such as telling others to “find their passion” is an “awful advice” now.<sup>11</sup> Socially, we should treat all equally while allowing for unequal distribution of rewards based on merit, maintain work–life balance, be a top performer, and find the fine line between being generous for mentoring and not socially imposing.

In terms of work processes, today’s jobs necessitate increased self-regulation because the goalposts are moving as firms customize their responses to transforming markets. Figuring out how yesterday’s goals morphed into new targets today due to new market entries and customer acquisitions and how all this may shake up the unit or an organization is an intellectual toll. Shifting work priorities calls for deliberations about new choices, which often rely on new data, but too much information and choice can impede decisions.<sup>12</sup> All this is wrapped into shrinking margins of error. On top of it, plans can be undone with one unexpected email from the boss, which is why some employees feel that success requires sleeping with a cell phone. Together, the attention needed to perform these jobs rises steeply, and what represents attainment is unclear. Amorphous roles in the workplace drain employee attention rapidly.

To illustrate, consider the clarity of this description in a job advertisement from 50 years ago:

In 1968, Radio Manufacturing Company placed a job ad in the London press stating, “South city requires intelligent young man, 21–25, as Trainee Supervisor. Applicant should have Leaving Certificate standard of education and some mechanical experience.

Compare the relative simplicity of that ad to a posting for a similar position at Rite Aid in 2019:

Learn to lead store associates through the execution of company business plans and objectives to drive sales, be profitable, and provide a superior customer and associate experience... Learn to manage an individual store while meeting store retail budgeted sales, margin, labor, expenses, and overall P&L monthly results to ensure operating EBITDA and income are achieved.

Together, the cognitive processing burden of contemporary employees is accelerating, and amorphous roles in today’s organizations make success unclear. This places a premium on attention processing capacity to fulfill increasingly complex occupational roles, draining attentional capacity more

so than ever before. Change is part and parcel of organizations, but the conglomeration of job demands and the pace of change today are unparalleled. Employees report that they worry about whether they can process all that they have to do daily and about their inability to garner sufficient attention to handle upsurges in demands placed on them. The never-greater cognitive attention deficiency is concerning because the mounting gap between what organizational members face and what they can attentionally process creates an open loop, self-regulation is no longer adaptive, and impairments to mental health can unfold.

## Conclusion

The complexity of life and work has evolved through a series of transformative stages. The Hunter-gatherers period is characterized by small, nomadic groups of people who survived by hunting, foraging, and fishing. Life was heavily dependent on the immediate environment, which was not impacted much by humans, and there were few personal possessions or surplus resources. Social structures were relatively egalitarian. The “economy” was based on reciprocal sharing, as a surplus of food could not be stored. If any, surplus was gifted to neighboring bands to build social credit. If human existence has lasted 24 hours total, then for 23 hours and 53 minutes, we were hunter-gatherers; hence, why our brain morphology is considered to still be the same, as there has simply been insufficient (evolutionary) time to adapt biologically.

The transition to agriculture began around 12,000 years ago and led to a more stable food supply. Farming allowed for the production of surplus food, which enabled population growth and the establishment of villages and, eventually, cities. The complexity of human life increased with the division of labor, the development of trade, and the rise of social hierarchies and organized religion. Property and resource ownership became central, leading to more defined social structures, often characterized by wealth and social inequalities, and, thus, human conflict.

The Industrial Revolution marked a profound shift from agrarian to industrialized economies. On the one hand, innovations in transportation, technology, and manufacturing led to mass production and the rise of urban centers. This era saw a significant increase in productivity and living standards. New companies ensured *joie de vivre* was accessible to many, not just to the affluent (e.g., Anheuser-Busch, Jack Daniels, and American Tobacco). On the other hand, as people moved from rural areas to work in factories under often harsh conditions, social perturbations were inevitable. The complexity of society soared with the development of industry, the importance of capital, and the influence of global trade networks. Many organizations are no longer communities of committed employees but a desensitized

conglomeration of cut-throat corporate cultures that wreak havoc on our ecosystems and one another.

### Discussion Questions

- How has transitioning from a hunter-gatherer way of life to an agricultural and industrial society affected community social interactions?
- Agriculture brought a stable food supply and stratifications of social, economic, and political inequalities. Consider the pros and cons of the agricultural era. Were trade-offs worth it?
- How do globalization and digital connectivity affect job opportunities and economic disparities within and between countries?
- How might the shift to remote work influence career choices and opportunities? Include considerations of work–life balance, productivity, and collaboration.
- In your view, are we happier humans today than in the past? Why? Why not?

### Exercise

- What should you stop, start, and continue doing? Make a list of your skills and areas of expertise. Then, identify which era discussed in this chapter that skill would benefit you most. Reflect on skills not as relevant in today’s organizations. Then, consider skills that you should perhaps discontinue, start because they are needed and you do not have them, and continue because you are already good at it and they are necessary.

### Notes

- 1 Writings of Yuval Noah Harari, in addition to Rousseau, have also guided and illuminated aspects of our thinking in framing and putting this chapter together.
- 2 For more details on pace of evolutionary change and relative stability of genetics, see Mukherjee (2016). *The Gene: An Intimate History*. New York, NY: Scribner.
- 3 See also Peterson, D. (2013). *Hadzabe: By the Light of a Million Fires*. African Books Collective Ltd.
- 4 For more on automated cognitive processes see Stajkovic, A. D. & Sergent, K. (2019) *Cognitive Automation and Organizational Psychology: Goal Priming as a Source of Competitive Advantage*. New York, NY: Routledge. See also Kahneman, D. (2011). *Thinking Fast and Slow*. New York, NY.
- 5  $2,500,000 / 12,000 = 208$ . If 2.5 million = one day, or 1,440 minutes, then its 208th part is 6.9 minutes.
- 6 Having said this, we also note that this argument is not a clear cut. Social constructions are not found in chemical and biological sense of nature, as they would not spur on their own out of matter and sun’s energy. However, they are created by humans, who are part of nature, thus, social constructions can be considered natural by weaving a longer chain of arguments. Said differently, one might say that whatever is found in nature is, well, natural.

- 7 Ruff, C. B., Trinkaus, E., & Holiday, T. W. (1997). Body mass and encephalization in Pleistocene Homo. *Nature*, 387, 173–176.
- 8 Extract from Thomas Jefferson to Edward Carrington. Thomas Jefferson Foundation. Retrieved from: <https://tjrs.monticello.org/letter/1290>.
- 9 Series “Hell on Wheels” vividly depicts this period, demand for work, and owner–labor relations.
- 10 See Cappelli, P. (2012). *Why good people can't get jobs: The skills gap and what companies can do about it*. University of Pennsylvania Press. See also Korunka, C. & Kubicek, B. (2017). Job demands in a changing world of work (pp. 1–5). Springer International Publishing.
- 11 See O’Keefe, P. A., Dweck, C. S., & Walton, G. M. (2018). Implicit theories of interest: Finding your passion or developing it? *Psychological science*, 29(10), 1653–1664.
- 12 Bawden, D. & Robinson, L. (2009). The dark side of information: Overload, anxiety and other paradoxes and pathologies. *Journal of Information Science*, 35, 180–191; Schwartz, B. (2004). *The Paradox of Choice: Why More is Less*. New York, NY: Harper Collins.

# 3

## THE FAILURE OF THE LEADERSHIP “COTTAGE INDUSTRY” AND ORGANIZATIONAL LEADERS AS MORE PROXIMAL FACTORS CONTRIBUTING TO EMPLOYEE COGNITIVE OVERLOAD

Historic factors contributing to cognitive overload discussed in the prior chapter are only one part of the story. The other part is the failure of leadership “in the cottage industry” and organizational leadership. The leadership field has seen a proliferation of perspectives with varying degrees of rigor and relevance, which makes it hard to discern “the wheat from the chaff.” In the spirit of intellectual freedom, everyone can contribute to the conversation. Although a wide array of voices can enrich a dialogue, the amount of mostly exaggerated nonsense written as leadership prescriptions by folk pundits is matched only by those for weight loss and sex. This chapter sifts and winnows through the myriad of leadership narratives and distills one truth at a time. Crystalizing this knowledge is meant to both support leaders in making informed decisions that can improve human sustainability at work and to help employees decide what not to listen to and, thus, guard their cognitive load against unnecessary infringement by leadership fads.

### What is Leadership?

Leadership is a process of fostering action through inspirational motivation. It focuses on creating a positive feedback loop such that employee outcomes exceed the standard.<sup>1</sup> To do this, influential leaders motivate people to go *above and beyond*. In doing so, leaders influence the thoughts, emotions, and behavior of others. Although many definitions of leadership exist, there are a few key components. Most importantly, a leader is someone whom others want to follow. Follower volition, not someone’s official title, is a unique aspect of this coveted role. Simply put, followers freely (not owing to threats

of pay reduction or fears of being fired) go above and beyond because they are inspired; they arrive there by having their thoughts and emotions transformed by the leader, resulting in new behaviors. This influence can come from a formal position if occupied by a leader (e.g., Frederick Delano Roosevelt, FDR, as U.S. President) or informal roles (e.g., Gandhi and Martin Luther King Jr., MLK, as leaders of grass-roots movements).

Further, leadership is especially vital in amorphous contexts in which practices from predictable times are unlikely to apply, such as when people look for a way out of unexpected predicaments, emotional support along the way, and guidance in helping them achieve their goals. Leaders can inspire directly through their involvement on the ground, indirectly through writing, teaching, preaching, or all. Effective leaders are driven by a desire to bring about positive change (e.g., the Marshall Plan; social justice) rather than by lust for control, obsession with the riches, or power complexes from childhood that need remedies in adulthood. Leaders care about followers' motivation because they know that going above and beyond is impossible without followers' voluntary initiative, creativity, and passion. These are optional gifts to be given to an inspiring leader or left at home while doing the bare minimum. Inspiring followers to contribute their gifts voluntarily and to go above and beyond is a formidable undertaking, which is why genuine leadership has never been easy.

Together, leadership comes in various forms; it could be formal, informal, direct, and indirect. Leaders are characterized by inspiring others who voluntarily invest their discretionary efforts and talents – initiative, creativity, and passion – that could otherwise remain untapped. Followers are moved to action that goes above and beyond because they experience a significant transformation of how they think and feel about the cause, at work or elsewhere. Leaders who can effect such transformation wield substantial influence and are infrequent to find – not because they are elusive legends but because the qualities that characterize leadership are rarities. Management *v.* Leadership Authority figures who foster group action by compelling effort toward specifications are managers. They get what they expect and inspect and primarily focus on closing the negative feedback loop, where an outcome needs to be brought to some standard/specs. For example, if we are building a real-estate development, it better aligns with blueprints. We hire managers to execute the specific plan in front of them (e.g., ground operations at airports), no more, no less. Someone else, a leader, has pushed the way we think and has come up with an idea to build lagune-real-estate developments in deserts, and fostering a global world through large airports.

This distinction is not something organizations developed, as it goes back to antiquity. For example, leaders like Julius Caesar and his successor, Octavian Augustus, inspired the vision of enabling Rome's military and commercial expansion by building an unprecedented structure of roads. Leadership developed an idea of a connected and flourishing empire and



inspired others to enact that vision. Roman engineers, the “managers” of antiquity, had to translate the vision into action to build the roads. To do this, they adhered to planning and specifications, ensuring each passageway was constructed to the required standards of military movement and enabling commerce. Managers enforced compliance and diligence via formal positions of authority and reinforcement techniques, such as contingent positive and negative reinforcement and (threats of) punishment.

Thus, though managers are essential in compelling efforts on the ground to execute plans that operationalize the vision, they differ from leaders, who have a different skill set to inspire other people toward the new vision. The adage “manage processes lead people” captures these two functions’ distinct yet complementary roles. In the former scenario, the needed skills are professionally more straightforward – we need construction engineers, road builders, and concrete mixers. In the later circumstances, the skills required are more amorphous and psychology-based. Thus, managers *transect* resources into a product, and leaders *transform* hearts and minds.

We focus on leadership for several reasons. What it takes to be a good manager is more obvious, as it is fairly specified what professional qualifications are needed for which tasks. It is also, ostensibly, easier to be a manager than a leader because it is easier to be correct when you know what correct is. This does not require the amorphous “remolding” of the followers’ minds to inspire them. Thus, understanding the causes of behavior is arguably more important for leaders than managers, given the often-ambiguous context in which they operate and the lack of pre-packaged responses. But, to understand the causes of novel human behavior, knowledge of how information is stored, processed, (re)organized, primed, and actuated is necessary. That is, some knowledge of cognitive psychology is needed for informed attempts at changing behaviors in ways that did not exist before and that are supposed to go above and beyond the norm.

For example, consider a manager’s job in a car shop that changes tires. Employee skills are assumed as competent individuals were presumably hired, and if some skills were missing, relevant training would have been provided. To improve the process/volume of sales, a manager might point to a new machine or a more efficient hand tool. Time-limit goals for the tire change might be set, feedback would be provided, and steps for improvement would be considered the next time around. Given the clarity of the task, it is unclear to what extent “inspirational” stories about tire changing in the past would be helpful, irrelevant, or even come as off-putting.

Leaders mostly portray the greater good to aim for and new ways to get there, and the process mostly unfolds through communicating and hopefully embodying such stories. But what kind of stories to tell? Generally speaking, employees do not come as story “tabula rasa” but have had exposure to various narratives. Thus, leaders must relate new stories that overtake the prior ones in their inspirational potential. This comes to creativity, and there

are different levels of creativity of stories – to what extent they stretch the audience’s minds into new and unexpected directions – and the creativity of leaders to recognize the differences and their impact.

The simple stories retell the traditional narrative of the group but suggest that present leaders can do so more effectively than before (e.g., through better verbal ability) or promise to execute the storylines more efficiently (e.g., owing to their experience that perhaps other leaders did not have). Many business leaders sound like this, as their stories of efficiency, scale, unit cost, and quality are similar across companies. We call this an efficiency story, which is valuable but not necessarily inspirational. They often result in a shoulder shrug because their merit is evident, and the audience’s consciousness is not actuated in new, unexpected (or exciting) ways. This means the group is unlikely to evolve in curvilinear ways, as a leader’s standard narrative is not conducive to “seeing behind the corner.” But, if such vision leaps “over the hill” are unnecessary, a manager with efficiency prescriptions for the challenges at hand suffices.

A bit more inspiring are what we call the nostalgia stories. They re-voke some value that has previously worked but has fallen in disuse. President Trump’s “Make America Great Again” slogan would be one example. In academia, Robert Maynard Hutchins, former president of the University of Chicago, was known for his support of college education based on classic texts, which was falling by the wayside then to the growing trend of offering electives. The “muted” value is that “students are not customers” (from whom, in the spirit of capitalism, we should ostensibly squeeze every penny) but a group that deserves the best education whether they like it or not or whether that is profitable for institutions or not. We smirk when we hear that we need more student mentors, as mentors are everywhere; they are called classic books. From a leader’s perspective, to use this example, reinvigorating interest in millennia of accumulated wisdom in classic books can counter contemporary stories and inspire reorientation of educational goals. Notice the emphasis on changing minds here versus the adherence to specs.

Finally, there are genuinely new stories. Compare the Old Testament’s “eye for an eye” and the New Testament’s “turn the other cheek.” These are opposing recommendations for handling conflict, for better or worse. On an Earthly scale, scientific visionaries were Darwin, Freud, and Einstein. In our view, Gandhi and MLK hardly have visionary rivals in the political arena. Their stories were often in stark contrast to prior narratives (or discoveries), and they had little support from institutions and established views, which usually went against new narratives. MLK had to communicate with people of different backgrounds, and nobody had to follow his vision, yet his story successfully conveyed new ideas to others. True visionary stories and leaders are rare, which is why they are disproportionately valued compared with those of business managers, for example, and perhaps because of the complexity

behind what it takes to be a leader, Suzy Welch, former editor of Harvard Business Review, stated on Twitter that “a manager is just a B- leader.”

### ***The Failure of the Leadership “Cottage Industry”***

Discussing what effective leadership is and how leaders can inspire others is interesting as it is ambiguous and requires a dialogue. Such conversations can be informed by research, where scholars rely on theory to guide the identification of sources of variation in leadership styles, personalities, and behaviors and then use research methods and statistical analysis to identify if variance occurred by or beyond chance. Replication is a gold standard of science.

This process, known as the scientific method, is similar across disciplines. Economists can point to policies as substitutes for leadership and offer their evidence. Sociologists might suggest that leadership effectiveness depends on the interaction within the social context, where people with social identities tend to stick together. Cognitive psychology would look for latent ideas in related stories, how they germinated, whether they affect the same or different cognitive structures in leaders and followers, how they are communicated, whether they are easily understood, and how ideas then influence the thoughts, emotions, and behaviors of others.

In contrast, narratives around leadership could also be a-theoretical and open-ended. In such cases, generalizations from gurus with no formal leadership education find an opening, effectively clogging up the field with fluff *de jure*, half-truths, and nonsense. The danger is that some of these assertions might be true randomly some of the time, thus creating non-systematic connections that can get leaders and their organizations into trouble. Though such accounts may have potential entertainment appeal, they are generally unconvincing for the following reasons.

### **Few to No Barriers to Entry**

Can anyone officially practice medicine without attending medical school and obtaining proper certifications? Why not? Because human health matters. Governments simply do not allow people to hurt others by treating them based on make-believe approaches used in place of formal education. Regulated industries in the U.S. are food quality (e.g., not to get corn powder when you think you are buying baby formula), pharmaceuticals (e.g., so that cancer medicine is not diluted and left-over key ingredient resold), and many others.<sup>2</sup> Simply put, would you want the next person flying the commercial aircraft to be someone who practiced flying only on video games or the person operating on your child’s teeth to have googled effective root canal techniques? These are not political statements but facts

supported by logic, and politicians and people across party lines generally agree with reasonable regulation.

What are the barriers to entry for leadership gurus? Surprisingly few. If you aspire to be a life coach or leadership advisor, you might think a formal study of the relevant literature is required. However, in today's digital age, that is unnecessary. With an internet connection, anyone can craft flashy phrases and market themselves as a leadership guru. The necessity to engage with, let alone contribute to research on leadership, is irrelevant. Simply by posting something online, a person can claim expertise. This starkly contrasts with fields like aerospace engineering, virology, or criminal law, where in-depth education, certifications, and ongoing engagement with research are prerequisites to professional practice. Yet, in leadership training and coaching, bypassing formal education and credentials is not just possible but often the norm. It appears that a society cares more about how some professions are equipped to treat patients/customers than how leadership gurus are equipped to treat employees.

### **Masquerading as Leadership Expert Analysis Sells Widely**

Leadership is normatively popular globally, and easy-to-grasp generalities (e.g., trust matters) sell widely. Social influencers seeking recognition as experts on an important topic are ready to capitalize on it. It is easier to post superficial simplifications (e.g., find purpose) combined with idiosyncratic tales of leadership attainments than to gain knowledge based on understanding research published in double-blind, peer-reviewed journals with low acceptance rates. For example, next time you engage one of them, ask them this question: Is job satisfaction related to performance at work? Virtually all exalt, of course, is, for it is intuitive. Yet, such a conclusion is known in research as the happiness fallacy because the answer to this question is more complex, requiring an understanding of relevant mediators and moderators, differences between state and trait variables, and statistics behind the (meta) analyses used.

One might say that in a free society, anyone has the right to express their beliefs. Though valid, this *laissez-faire* attitude can only be justified if the pronouncements are inconsequential. We need accountability if the "leadership experts'" words hold weight and can negatively impact organizations. Consider publicly traded companies: we do not merely accept simple declarations by the company of their stock value based on their belief. Instead, we rely on the Federal Trade Commission to enforce regulations and public audits to maintain market integrity. Investors and financial markets depend on verified information, not subjective valuations. Yet, when it comes to leadership gurus dispensing advice for which they were not educated, we overlook the necessity for a similar system of checks and balances.

This discrepancy suggests that society places greater importance on financial veracity than on the potential impact of misguided leadership advice on employees and organizations.

Take, for instance, a fictional leadership guru who might resemble many real ones. The media and financial success that come with being such a guru may be commendable, and these people often come across as clever and articulate speakers. Nonetheless, their contributions to the field of leadership do not extend to creating new knowledge. Their work merely repackages familiar concepts into attractive narratives. Many times, they have earned bachelor's degrees in fields unrelated to leadership. Like most other leadership pundits, most of these have not published a single double-blind, peer-reviewed scientific article on leadership. Instead, they author books with few entry barriers, such as a double-masked peer-review process. Admittedly, there might be entertainment value to reading popular press books. Still, many people are unaware that a good number of these books are not reviewed by real, educated experts before publication. This prompts us to question the decision-making of those who entrust organizational leadership development to people without qualifications. Would they feel equally comfortable entrusting their child's medical guidance to someone without a medical degree? It is unlikely, so we wonder why a different standard applies to the development of employees in organizations.

A critic might retort that it does not matter if a leadership guru's prescriptions correlate with research if what is said inspires employees to reach new insights. This reasoning, though, would be shortsighted. If the audience learns that leadership stories are cherry-picked and idiosyncratic, they might not believe in their generalizability. Thus, assumed inspiration from such stories might not translate to their world. If employees learn that popular leadership depictions are also embellished for theatrical advertising, they might dislike hypocrisy. Further, suppose data do not substantiate gushy narratives, data are kept confidential (e.g., methods behind data collection are unreliable), or patterns of associations behind the plot are only eyeballed and not statistically analyzed. In that case, it is a shaky foundation upon which to obtain insight and build an understanding of successful leadership practices, going forward.

Consider some concepts that are propagated by leadership gurus but that have been undermined by research. The "halo effect" has been perpetuated by leadership authors to imply that successful business leaders will excel in any situation because being good in one domain easily translates to other domains. Yet, research shows that halo bias often wrongly influences evaluations of a leader's ability, causing people to overlook situational factors.<sup>3</sup> Another common myth is that employee satisfaction is the most critical factor for a company's success. This appears in many books, such as "Delivering Happiness" by Tony Hsieh, suggesting happy employees are the essential driver of performance. Yet, research shows the complex relationship

between job satisfaction and business outcomes.<sup>4</sup> Though job satisfaction is essential, it is one piece of the puzzle. Factors like market conditions, strategic decisions, and operational efficiency also play roles. Thus, it is not enough for leaders to focus solely on making employees satisfied; they must also consider the broader context in which the business operates. In *The 48 Laws of Power* by Robert Green, leaders are advised to appear in control and to guard their emotions, propagating the notion that leaders must be strong and unemotional. Yet, research suggests that influential leaders are emotionally intelligent and capable of understanding and managing their emotions and those of others,<sup>5</sup> debunking the myth that leaders should be stoic.

Taken together, if the leadership industry propagates prescriptions that come off as having little resemblance to employees' daily lives, they might become cynical, let alone have the advice resonate and propel them forward. In the final analysis, if the public cannot trust accounts of leadership that generate wide publicity, why will they trust research that they understand little and is rarely widely advertised in the media? This can engender public distrust in what passes as social science, making it challenging to build cumulative knowledge about leadership.

## The Failure of Organizational Leaders

### *Cost of Failure is Low for Some Executives and Corporations*

The cost of failure for executives (and organizations) is relative. Some pay for it, but many still benefit from lavish exit packages despite company failure. Thus, why bother studying leadership and familiarizing yourself with research if you can "fake it until you make it" by cherry-picking easily accessible fads de jour? If things go south, get the money and run; you could still be rich. This concept is not new, as illustrated next.

Recall Bernie Ebbers, former CEO of WorldCom, who committed one of the most significant accounting frauds. At his peak, Ebbers was worth \$1.4 billion. Ken Lay (\$400 million at peak) and Jeff Skilling (a salary and compensation totaling \$132 million annually) of Enron eviscerated company stock value and pension funds. Dennis Kozlowski of Tyco (net worth \$600 million at exit) drove an excellent company to the ground, not to mention flying friends and family to Rome for a Roman Toga party on a company dime. Rick Wagoner managed to bankrupt General Motors. His net worth today is estimated at \$50 million while U.S. taxpayers bailed out the company. Richard Fuld of Lehman Brothers, despite making one unwise move after the other, was awarded approximately \$900 million in potential compensation and cashed out around \$530 million before the company's bankruptcy. Ed Lampert destroyed Sears after over 100 years of corporate existence while enjoying a net worth at his peak of about \$4 billion.<sup>6</sup>

Jerry Storch drove Toys "R" Us into a defunct company. His financial information is not publicly available, though knowledge of driving a most popular toy chain company to ruins is probably enough.<sup>7</sup> The former CEO of Home Depot, Bob Nardelli, was characterized as a "no-nonsense" leader. He resigned in 2007 after a storm of criticism over his autocratic, centralized, and strongly task-oriented style and his failure to improve his performance relative to competitors. Despite his failure, Nardelli received a severance golden parachute reported to be worth \$210 million, including cash, stock options, and retirement benefits. Nardelli's tenure and departure from Home Depot raised questions about executive pay scales and the structures of severance agreements, particularly when such payouts appear to reward executives even when their leadership has not produced positive results for the company's shareholders or employees.

In several high-profile cases, corporations have found it financially advantageous to engage in unlawful activities, where the profits from unscrupulous activities exceeded the fines imposed. This is especially true for large companies, where the penalties incurred for criminal activities are often seen as another cost of doing business, as they receive more minor fines relative to their size compared with smaller companies. Take, for example, Volkswagen and the emissions scandal in 2015. The company admitted to installing software in diesel engines that could cheat emissions tests, allowing their vehicles to produce up to 40 times less pollution than allowed. This deliberate deception was a calculated risk that initially seemed profitable, as it allowed Volkswagen to market its cars as both powerful and environmentally friendly, a significant competitive edge. However, when the scandal was uncovered, Volkswagen faced billions of dollars in fines, vehicle buybacks, and consumer compensation. Despite the substantial financial penalties, which totalled over \$30 billion, the long-term impact on the company's finances and reputation may still be outweighed by the profits earned during the years the deceptive practice was in place.

### ***Escalation of Commitment***

Throughout our interactions with numerous executives over the years, many have candidly acknowledged their limitations in technical areas such as accounting, production, or finance. However, it is rare to encounter a leader who openly admits to deficiencies in their leadership capabilities. This reluctance can lead to what is known in the management literature as the escalation of commitment or the sunk cost fallacy. Leaders seldom acknowledge their errors, often doubling down on their initial investments, preferring to be seen as a hero versus a quitter, and crafting justifications to avoid the appearance of initial confusion. They cling to a narrative that lends meaning to their failed actions through rationalization (e.g., though we failed, we learned valuable lessons). To concede outright failure is to confront the

flawed action and also the troubling admission of having been misguided in the first place.

### ***Leadership Myths***

Many, not all, contemporary CEOs sound like organizational salvation peddlers. This is because if a leader sticks to brute numeric reality without mixing some fiction with it, few will voluntarily follow, to say nothing of being uninspired by such leadership. Focusing on numbers and facts makes sense on a small scale, but it is insufficient to stimulate mass cooperation, as is needed in organizations. Myths are necessary for that. Although they might not be confirmed or sustainable, myths maintain the effort in the hope of obtaining what the myths promise, which is frequently the same, e.g., wealth and subjective well-being. Said differently, myths give meaning to the world, as in having a prosperous and robust organization and happy employees enjoying their full professional and interpersonal lives. These are purposes greater than just numbers/profit (e.g., fulfilled lives), and are underlined by archetypal values (e.g., harmonious social progress).

Many growing up in the Judeo-Christian tradition learn that it is better to be Moses than a supply-chain manager of manna to be delivered to about 3 million people in the desert, with no distribution channels, for 40 years. Aspiring to walk in Jesus's footsteps is better than being a bookkeeper of temple goats to be slathered. If we asked Hindus whether they would rather fly on Vimanas or live the life of a Slum Dog millionaire, what would they say? In virtually every picture, Buddha seems relatively well-off (judging by his weight), which is not the case with depictions of Vietnamese pheasants in the post-war period. Somebody has to do the "or ..." activities. But, as a leader of employees who aspire to follow you and work hard, would you rather portray yourself as a prophet or a food distribution manager? A savior or a goat accountant? Flying in style or cleaning sewers with the hope of winning the lottery?

Which choice do you think employees will be more impressed with? Boring, and maybe even complex explanations of why bookkeeping is essential? Or, with a more straightforward but inspiring view of you as a (selectively chosen) person who will lead our organization through the picks and valleys of relentless global competition, show us the way through the darkness of business machinations, and be there for us in time of need. If such a carefully crafted myth translates to a corporate brand, it should survive any given leader/human and be promulgated at little marginal cost.

In saying so, we do not intend to devalue the roles of managers and bureaucracy in business functioning. But, it also needs to be realized that the value of procedures, calculations, and algorithms found in efficiency does not necessarily translate to human inspiration. These are qualitatively different



processes with different causes behind them. Both are needed and should be studied. The former are more accessible to grasp and are well-covered in the literature. Our emphasis here is on leaders and related psychological processes, as humans are still getting used to the idea of “trust the system” versus looking up to the hero individual coming to our rescue and leading us forward. Flesh-and-blood inspiring individuals get our juices going, propelling the creation of the positive feedback loop of going *above and beyond*. In contrast, our well-organized accounting department telling us that we *live well on paper* might close the negative feedback loop and move us from dissatisfaction to normal. Still, it is unlikely to produce a dopamine kick needed for inspiration.

The key difference to be recognized is between leaders who use myths to reinforce positive reality, as they behave closely to the espoused ideals and succeed. The other group uses myths to twist reality. Though failed leaders who relied on self-serving fables had it coming, unfortunately, they often dragged companies and thousands of employees down with them.

### ***Uninformed Leadership Practices***

Despite some well-intentioned efforts to inspire employees, leadership practices often inadvertently impose an unnecessary cognitive burden on employees. For example, Alfred Sloan, who led General Motors (GM) from the 1920s until the 1950s, is known for his contribution to developing modern corporate management practices. He implemented a decentralized structure, giving division heads more autonomy to make decisions relevant to their markets and product lines. This approach helped to reduce the cognitive load for GM workers by allowing managers to focus on the specific demands of their divisions without being overwhelmed by the complexity of the entire corporation. In contrast, Henry Ford revolutionized manufacturing with the assembly line for producing the Model T, significantly lowering costs and the vehicle’s price. However, assembly line work’s repetitive and monotonous nature led to high employee turnover, owing to dissatisfaction and mental fatigue. Ford’s initial insistence on a single model and color failed to account for the psychological needs of his workers, which eventually put a strain on the company and increased workers’ cognitive load and fatigue.

More recently, the open office concept, popularized by Michael Bloomberg, was intended to tear down walls to build up communication. Yet, as employees in these environments soon discovered, too much openness in one’s physical workspace increases the frequency of interruptions, disrupting workflows and thought processes. Likewise, approaches that focus on accessibility, such as the open-door policy promoted by Elon Musk, can cultivate an environment conducive to cognitive overload. An open-door policy, while meant to foster transparency and approachability, often increases distractions that drain the cognitive capacity of leaders and employees. Similarly, leaders who call for continuous collaboration and innovation, such as the push by Marissa Mayer of

Yahoo for a collaborative presence or Steve Job's relentless drive for the next big thing, highlight the balance between what leaders think is the latest fad in productive workplace and actual productivity. Without monitoring, these environments can increase social loafing and hinder establishing productive routines, culminating in an increased cognitive load.

Satya Nadella's leadership of Microsoft and Jack Welch's rein at General Electric illustrate the challenges of empowering leadership and stretch goals. Nadella's approach to empowering Microsoft employees could lead to choice paralysis without clear guidance. Too much autonomy can put employees in a situation where they have to make decisions they are not equipped to handle, increasing their anxiety and load. Welch's aggressive, stretched goal-setting was intended to inspire greatness but could also usher in undue stress when goals were unattainably high without corresponding support. Companies like Amazon have pushed the envelope on efficiency when it comes to multi-tasking. However, this is often at the cost of diluted attention and reduced deep work, as juggling multiple tasks exerts a more significant cognitive toll.

Travis Kalanick, the co-founder and former CEO of Uber, led through a period of intense growth and controversy. Reports of a high-pressure work environment, aggressive corporate culture, and lack of support for employees and drivers indicate that his leadership may have contributed to an increased cognitive load. His push for rapid expansion and the stress of dealing with internal and external conflicts likely increased cognitive demands on staff, leading to cognitive overload and turnover. In today's digital age, the proliferation of communication tools, like emails, chat apps, and project management tools, can lead to digital fragmentation, where managing and prioritizing communication channels becomes cognitively draining. When too much information is available, or tools are present to choose from, employees can become overwhelmed and find it difficult to focus. When paired with a lack of direction, as seen during Carly Fiorina's leadership at Hewlett-Packard, information overload can result in employees spending excessive cognitive effort trying to decipher a leader's (too) ambiguous objectives.

## Conclusion

History is full of leaders whose actions have impacted the cognitive load of others – for better and worse. We reiterate that leadership is not just about steering the organization toward its goals but also about ensuring the cognitive well-being of the people who are integral to its success. Doing this requires leaders to focus on people – not just processes – putting their team at the forefront and fostering meaningful experiences that empower employees for the future. How they inspire employees and mitigate their cognitive (over)load in the process is unclear. The leaders who will leave a positive legacy will be those who can blend profit-related ambition and pursuits with empathy for their employees, ensuring that the pursuit of goals

nurtures rather than depletes the mental resources of the employees who work towards them. Through this lens of cognitive consideration, the future of sustainable leadership in organizations must be viewed. Thus, some education in cognitive psychology is needed for informed attempts at inspiring employees above and beyond, but in ways that seek to maximize human sustainability at work.

### Discussion Questions

- If your subordinates at work had an anonymous say in your ascentation to power, would they have picked you because *they wanted you* as they thought you were an inspirational leader?
- Have you ever inspired (not threatened, bribed, compensated, or tricked) someone to voluntarily go somewhere where they did not want to go before, and they loved doing it?
- Do direct or indirect leaders reach more followers, and why? For example, direct leaders like FDR, Churchill, and Stalin ostensibly carved the world at the conference in Teheran in 1943. Yet, an indirect leadership of Darwin changed the way we think about life development with one line – all living creatures on this Earth evolve by natural selection through the survival of the fittest. Who had a more significant influence on the world, direct leaders who carved it or indirect ones who changed how we think about it?
- How might the rise of the “leadership cottage industry” have contributed to the cognitive overload of employees seeking to improve their leadership skills? More specifically:
- Discuss the implications of having no barriers to entry for leadership gurus in the context of cognitive load for employees. How might this affect the quality of leadership development in organizations?
- Why is it essential for leaders to understand cognitive psychology principles when attempting to inspire employees?
- How do the concepts of “escalation of commitment” and “sunk cost fallacy” manifest in leadership decisions, and how do they impact the cognitive load of leaders and employees?
- Why do leaders use myths? Is it indispensable?
- Discuss the potential cognitive effects of open offices and continuous innovation through digital communication. How do these environments affect employees’ mental resources? What types of environments might be less cognitively taxing for employees and leaders? What other environments have you seen with good intentions that increased cognitive load?

## Exercises

- Choose a well-documented case of a company that faced employee cognitive overload with instances of anxiety, depression, and even suicides attributed to work. Analyze the leadership actions taken and their consequences on these outcomes.
- Reflect on when you experienced a high cognitive load, owing to leadership actions. Write about what could have been done differently to reduce this load.
- Debate the statement: “The proliferation of leadership guru advice has done more harm than good regarding employee development and cognitive overload.”

## Notes

- 1 See the following article for comprehensive discussion of positive and negative feedback loops, and self-regulation: Stajkovic, A. D., Lee, D., Greenwald, J. M., & Raffiee, J. (2015). The role of core confidence higher-order construct in self-regulation of performance and attitudes: Evidence from four studies. *Organizational Behavior and Human Decision Processes*, 128, 29–48.  
 In addition, both of the authors teach leadership and a lot of the content presented in this chapter draws from our accumulated knowledge over the years, recent research (Sergent & Stajkovic, 2020, *Journal of Applied Psychology*; Stajkovic & Stajkovic, 2023, *Journal of Business Ethics*; Stajkovic & Stajkovic, 2024, *Journal of Management*) and our book, *Management and Leadership* (Stajkovic & Sergent, 2019). Others who have influenced our thoughts on leadership over the years include authors of the books we have read and used in our classes, particularly e.g., Howard Gardner’s *Anatomy of Leadership* (2011), and Jeff Pfeffer’s *Leadership BS* (2015).
- 2 Other regulated professions include pilots (who need a Bachelor's degree, commercial pilot license, and Airline Transport Pilot certificate), public accountants (who need a Bachelor's degree and Certified Public Accountant license), pharmacists (who need a Doctor of Pharmacy degree and to pass two exams – North American Pharmacist Licensure and the Multistate Pharmacy Jurisprudence exams), architects (who need a professional degree and to pass the Architect Registration exam), engineers (who require a degree from an accredited engineering program, experience, and to pass the Fundamentals of Engineering and the Professional Engineering exams), nurses (who must complete a nursing program and pass the National Council Licensure exam), dentists (who need either a Doctor of dental surgery or Doctor of Medicine in Dentistry degree and to pass state licensing exam), teachers (who need a Bachelor's degree and to pass multiple state licensing exams), and veterinarians (who require Doctor of Veterinary Medicine degree and to pass the North American Veterinary Licensing exam).
- 3 Denrell, J. (2003). Vicarious learning, undersampling of failure, and the myths of management. *Organization Science*, 14(3), 227–243.
- 4 Judge, T. A., Piccolo, R. F., & Kosalka, T. (2009). The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *The Leadership Quarterly*, 20(6), 855–875.

- 5 Côté, S., Lopes, P. N., Salovey, P., & Miners, C. T. (2010). Emotional intelligence and leadership emergence in small groups. *The Leadership Quarterly*, 21(3), 496–508.
- 6 Bing.com; Celebritynetworth.com; Search term: [Name] of [company], net worth at peak and exit? Specific details regarding net worth for many executives at the time of their exit from the companies they bankrupted is unavailable with a return such as “... not provided in the available sources and would require further financial data and records for a precise figure.”
- 7 Source, same as above.

## PART 2

# How Bad is It and How Should We Work Then?



**FIGURE II.1** Uncertainty  
Source: Image by Freepik.

There are two currents in this part. The first is empirical evidence to establish the graveness of the cognitive overload situation in contemporary organizations. Chapter 4 presents a variety of evidence to demonstrate the relationship between cognitive overload and work-attributed psychological distress, such as anxiety, depression, work–life conflict, and suicides.

The second part is a need for theory guidance in achieving human sustainability at work instead of haphazard actions. One way to look at human sustainability is that there is a moral value to life, and thus, moral matrixes should guide this conversation forward. Another angle from which to approach human sustainability at work is that work has an instrumental value in life, and thus, business concerns should take the lead in guiding future conversations. How about science? What are the mechanisms through which these perspectives could help reduce cognitive overload at work? How do we choose? Chapter 5 examines these questions.

# 4

## EVIDENCE OF PSYCHOLOGICAL COST OF WORKING IN CONTEMPORARY ORGANIZATIONS: ANXIETY, DEPRESSION, WORK-HOME CONFLICT, AND SUICIDES ATTRIBUTED TO WORK

The prior chapters outlined historical trends, leadership failures, and unsustainable organizational practices as contributing factors to the cognitive overload of today's employees. In this chapter, we review empirical evidence from multiple sources indicating that the cognitive overload of employees in contemporary organizations has led to many forms of psychological distress, especially anxiety, depression, work-home conflict, and work-attributed suicides.

Before we review the evidence, it is important to rule out several alternative explanations. First, labor economics has long informed us that lack of health insurance harms workers' health and that organizational safety measures prevent employee injuries. The health insurance market trends suggest that participation has continued to grow, increasing by 25 percent between 2020 and 2022.<sup>1</sup> What we knew less about until recently, and that needs attention, is that cognitive overload, which is less visible, can have equally devastating consequences at work. Pathologies resulting from depleted attention at work, presented in this book as  $APC-APD < 0$ , are being increasingly documented, and mental health has become the most common work health issue.<sup>2</sup>

Second, employee "idleness" or "intellectual sluggishness" are not an issue. On average, incompetent employees are not being hired for jobs they cannot perform, the quality of a college education is not decreasing, and employees are not shying away from hard work. Instead, around the globe, employees report that they worry about whether they can process all they face daily and cannot pay attention to the frequent upsurges in job demands. This is because, compared with what employees used to do, the



characteristics of the modern-day workplace call for higher levels of information processing. Because adaptation to a growing cognitive load requires a corresponding psychological makeover, employees fear if they can handle it all.<sup>3</sup> Another survey reports that about 40 percent of employees feel doubtful that they can handle their jobs,<sup>4</sup> and a survey of over 14,000 federal employees found that 47 percent do not report high levels of confidence in their ability to perform successfully.<sup>5</sup> Predictability fosters adaptive preparedness, which makes it more likely to surmount predicaments faced. However, the “inability to exert influence that adversely affects one’s life breeds apprehension, apathy, or despair.”<sup>6</sup>

Third, cognitive overload probably simmered for much longer than needed, compounding over time because it was not addressed early. For example, twists in the historical narratives precluded reporting of psychological problems, e.g., Devil must have gotten into you if you showed signs of psychological issues. This likely masked mounting cognitive overload for a long time. As a result, psychological consequences came with it quietly, as few people would talk about their mental disorders if they were to be subjected to social stigmas and penalties.

### **Work-Related Psychological Distress on the Rise**

The U.S. Department of Health and Human Services (DHSS) uses the term “psychological distress” to refer to a range of psycho-somatic symptoms, where “psychological distress includes mental health problems severe enough to cause moderate-to-serious impairment in occupational functioning, and they may require treatment.”<sup>7</sup> This broad term, used by the U.S. government, encompasses multiple indicators, as discussed next, but most manifest mental-health disorders.

Approximately 160 million people are part of the U.S. workforce today.<sup>8</sup> Work is central in most people’s lives, shaping their financial wealth, physiological health, and subjective well-being. When people flourish at work, they are physically and psychologically healthier and contribute more to their organizations.<sup>9</sup> Conversely, when people are suffering at work, that negatively impacts their physical health and mental well-being. Cognitive overload has been linked with a host of psychological maladies and performance impairments. In 2022 the U.S. Surgeon General announced toxic workplaces as a top five health crisis and reported that 76 percent of employees claim to have had at least one mental health symptom in the last year, and 84 percent reported that their workplace contributes to at least one mental health challenge.<sup>10</sup> Another survey of workplace (psychological) safety revealed that mental health issues, such as stress and anxiety, are the number one workplace maladies, accounting for 52 percent of all work injury cases.<sup>11</sup>

To put this into context, mental health injuries (negative outcomes) at work are ten times more common than chemical exposure and 8.6 times more common than head injuries. Given this, it is unsurprising that stress and burnout are rising globally, with 43 percent of middle managers reporting burnout, more than any other group.<sup>12</sup> Even among top executives, job satisfaction is down by 15 percent, work–life balance is down by 20 percent, and work-related anxiety is up by 20 percent in the last year.<sup>13</sup> Mental health issues are the most common workplace injury likely because they are universal – they span industries, environments, and levels of career attainments.

According to Gallop’s *State of the Global Workplace 2023 Report*, 44 percent of employees reported experiencing “a lot” of mental stress the prior day, repeating the record high in 2021 and continuing a trend of elevated stress that began around a decade ago.<sup>14</sup> To illustrate, consider the comments by this employee reported in the Gallop survey: “By the time I’m done with work, I’m so exhausted that some days I don’t have the energy to hold a conversation. So, over time, I’ve had family and friends accuse me of not being socially receptive when they try to reach out.” According to Gallup, 76 percent of American workers also report feeling frustrated at the end of their rope.<sup>15</sup> This impact of cognitive overload trickles down to the organization’s bottom line, resulting in lower productivity, higher turnover, higher absenteeism, and higher medical costs. For employees, mental health problems increase the risk of substance abuse, increase sleep problems and stress, decrease confidence, and can lead to poor performance.

The story repeats itself with data from government agencies. The Office of the U.S. Surgeon General has made workplace mental health and well-being a critical priority for public health. Based on the wide-ranging data the DHSS collects over time,<sup>16</sup> this agency concluded that psychological distress in the U.S. is not only rising, but it is at an all-time high.<sup>17</sup> Sustained elevated stress leads to overactivation of the “fight or flight” response, and with it comes downstream adverse effects on other systems.<sup>18</sup> Hormones released by increased stress disrupt sleep, increase muscle tension, and impair metabolic function.<sup>19</sup> In addition, stress weakens a person’s immune system and increases the risk of diabetes and other chronic health conditions, such as high blood pressure and cholesterol.<sup>20</sup>

Although the COVID-19 pandemic of 2020–21 elevated stress levels globally, nearly four years later, employees are still struggling to address the negative impacts of work on their mental health. For instance, Mental Health America surveyed over 11,000 workers across 17 industries in the U.S. and found that about 80 percent stated that their workplace stress affects their relationships with friends, family, and coworkers.<sup>21</sup> Although workplace stress has many correlates and causes, including heavy workloads, long commutes, unpredictable schedules, limited autonomy, long work hours,

multiple jobs, low wages, and non-work responsibilities,<sup>22</sup> each challenge is magnified when employees experience cognitive overload.<sup>23</sup>

Several conclusions are apparent from these data. First, these reports likely underestimate the severity of the situation as they represent formal reports and do not reflect those suffering who refrained from reporting. Just because problems go unreported does not mean they do not exist, known in statistics as a restriction of range problem. Second, it is difficult to blame increases in psychological distress on insufficient levels of education or poor living conditions, as both have been increasing for decades.<sup>24</sup> Third, cognitive overload is not limited to a few high-stress industries. Moderate-to-serious impairments in work functioning caused by psychological distress have been reported across occupations, i.e., construction, entertainment, entrepreneurship, management, military, maintenance, sports, and long-haul trucking.<sup>25</sup>

Cognitive overload is not limited to U.S. workers. Work-related psychological distress affects employees around the globe, imposing an economic cost of \$300 billion in the U.S.,<sup>26</sup> €240 billion in Europe,<sup>27</sup> and C \$240 billion in Canada.<sup>28</sup> In 2013 World Health Organization (WHO) member states adopted the *Comprehensive Mental Health Action Plan 2013–2030*, committing to meeting targets for improved mental health through strengthened leadership and governance, community-based care, and promotion and prevention. A decade later, the WHO concluded that progress has been slower than expected, with mental health conditions continuing to exact a heavy toll on people's lives.<sup>29</sup> Around the world, one in eight people live with a work-attributed mental health disorder, with anxiety and depression as the most common ones. These mental disorders massively contribute to overall national costs reflected in lost productivity and indirect costs, and they are estimated far to outstrip healthcare costs, excluding mental health. WHO reports that, on average, countries dedicate less than 2 percent of their healthcare budgets to mental health. Even when services are available, people often choose to suffer rather than risk social ostracization, as people known to be mentally suffering are often excluded and discriminated against in employment, education, housing, and other rights they have under the law.

### **Work–Family Conflict**

One consequence of increased psychological distress at work is a greater occurrence of work–family conflict, which occurs when the demands of work and family are incompatible.<sup>30</sup> Changes in family structures, such as the increase in dual-career couples and single-parent households, in conjunction with the increased demands at work, have many people struggling to juggle the competing demands of work and family. Research has shown that as more significant conflict emerges between work and family, people

experience less life and job satisfaction, greater absenteeism, and burnout, underscoring the negative effects for individuals and organizations.<sup>31</sup>

Work–family conflict is higher in the United States than anywhere else.<sup>32</sup> Why so? The workplace is designed around norms of the 1960s, mainly comprising of working men and the model of “what work looks like” has not been updated for over half a century. Looking back, in 1960, only 20 percent of mothers worked, and only 18.5 percent were single. The most common family structure comprised a working husband and a stay-at-home mom. Employers structured jobs around that structure, expecting that the breadwinner was available to work anytime, anywhere. Fast forward to today, and you will find that 70 percent of American children live in homes where all adults are employed.

Moreover, nearly one in four Americans care for elders, which is increasing. Hospitals release patients faster, and schools have stricter illness and weather policies requiring kids to stay home more often, increasing the burden on caregivers who are expected to work full-time. Despite marked changes in the world over the last 50 years, employers still uphold the ideal of the employee who is always available. They inherently assume there is an institution to care for the children, the sick, and the elderly – and services that can be hired to attend to dinner, pets, and laundry. For the majority, though, this is not reality.

Thus, when considering elevated levels of cognitive load stemming from work, it becomes paramount to consider the load imposed in other domains of life simultaneously. Though work conditions, like long hours, non-standard schedules, low control, and low supervisor support, can add to the cognitive load attributed to work,<sup>33</sup> family characteristics, and experiences can compound it, such as time demands in each role (e.g., partner, parent, caregiver), and the extent to which these roles interfere with one another. The issue is the ensuing negative cycle: work stress causes more significant work–family conflict, increasing load and stress.<sup>34</sup>

### ***Work-Attributed Suicide Epidemic***

Beyond creating greater conflict at home, cognitive overload and psychological distress can have fatal outcomes. On a frigid January morning, Michael Odell, a 27-year-old travel nurse, left his job at Stanford Hospital in California. By 4:30 AM he had vanished into the night. His absence culminated in tragedy when, two days later, dive teams retrieved his car and body from the waters near a San Francisco bridge. His death was attributed to work-related stress induced by long hours, compounded by depression following the death of his mother and lapse of health insurance coverage.<sup>35</sup> Odell is not alone. Michael Narazaki walked into his office at a Honda facility in Raymond, Ohio, on a Sunday morning in October. The subsequent hours bled into Monday morning, during which he took his life. The rafters of his

office and note on Honda letterhead bore witness to his insurmountable work distress: “I’m so sorry to leave like this, but I feel I don’t have a choice. I’m so sorry I couldn’t get anything right on this project. Maybe this is the one thing I am getting done right. I feel I have no other way out.”<sup>36</sup> Former Miami-Dade Police Director Alfredo “Freddy” Ramirez also faced a moment of dire desperation as he pulled his vehicle off the road, took out his pistol, pointed it at his right temple, and pulled the trigger.<sup>37</sup> Miraculously, Ramirez survived, though he lost his right eye. His story adds to the sobering statistics, which suggest that for every work-related suicide, up to twenty more work-induced attempts occur.<sup>38</sup>

The epidemic of work-related suicides is not confined to the U.S. Japan mourns the loss of a young doctor who succumbed to the mental toll of excessive overtime, bringing the *karoshi* or “death by overwork” into the international spotlight.<sup>39</sup> Similarly, a decade-old surge in work-related suicides in France prompted a legal change in 2019, with an indictment of France Télécom executives for harassment when 19 employees committed suicide, and 12 attempted it. “I am committing suicide because of my work at France Télécom,” one employee’s note read, “That’s the only reason.”<sup>40</sup> In China, increasing suicides and public protests underscored the conditions workers faced while assembling electronic devices at Foxconn. In 2010 workers began throwing themselves off dorm buildings in displays of desperation. One Foxconn employee described the work as high-pressure, with long shifts and aggressive management. In 2015 some 150 workers gathered on a rooftop and threatened to jump, and in 2016 a smaller group did it again.<sup>41</sup>

Work stress is a leading contributor to the rise of suicides, particularly among those with little autonomy over their high-demand jobs.<sup>42</sup> The U.S. Centers for Disease Control and Prevention reports a 33 percent increase in working-age suicide rates over two decades, with scientific research underscoring the link between job stressors and the risk of suicide.<sup>43</sup> These include factors like job control, lack of social support, poor workplace relations, mounting job demands, and excessive work hours, all extending beyond personal and mental health predispositions.<sup>44</sup> Stress research offers some answers, suggesting that well-managed work can offer coping resources to help employees develop and maintain skills to improve mental health and well-being, such as autonomy, learning opportunities, peer and supervisor support, professional development, and constructive feedback.<sup>45</sup> However, we fear these are temporary fixes that put a Band-Aid on the bigger problem, given the mounting data on work-related adverse psychological outcomes. The core issue remains – the cognitive demands of work today have outpaced the cognitive capacity of humans. Systematic problems contributing to this epidemic must be examined further and addressed to find more enduring solutions that safeguard human sustainability at work.<sup>46</sup>

## What is Unlikely to Solve These Problems

Destabilizing changes at work resulting in employee cognitive overload calls for theory development to address them. The open loop created by the dissonance between increasing load and limited attentional capacity will not be fully closed by reducing job demands. Expecting such alteration in the light of merciless business competition is unrealistic. Nor are sustainable remedies found in simplifications of attentional processing, such as self-help fads, getting new software planners and calendar aids, or superficial organizational tips like “prioritize your tasks” that fail to address the underlying complexities of the problem. We are unsure how artificial intelligence (AI) will play out in the future, let alone exert control over the trends. The potential role of AI in reducing cognitive overload is discussed in Chapter 9, not because we know what the future will bring and try to pre-empt it, but to discuss alternatives in the hope of preparing for some of them. Economics and related disciplines study factors contributing to productive organizations.

However, their approaches to competitive advantage are unequipped to tackle employee cognitive overload. Though practices to achieve a sustainable competitive advantage have economic benefits, they do little to recognize or meaningfully address employee cognitive overload. We neither venerate nor dismiss traditional economic approaches to competitive advantage for businesses. We simply underscore that they have been leapfrogged by time when it comes to cognitive overload and psychological consequences for mental health.

Because one purpose of forming an *organization* was to *organize*, efficiency was paramount. Efficiency involves making a product or offering a service with the least amount of time, material, and labor. Frederick Taylor’s Scientific Management was the high point of efficiency focus at the turn of the 20th century. The first cousin of efficiency is scale. Economies of scale have consolidated many industries through mergers and acquisitions since the mid-twentieth century. As sources of competitive advantage, efficiency, and scale are mostly about competing on lower unit cost. In the 1980s, Edward Deming pushed quality as a new focus in competitive business battles, which manifested in two ways. One is that products and services of high quality, such as those certified by Six Sigma quality control processes, are more likely to be sold, *ceteris paribus*. The other angle on quality is that for every Southwest Airlines that earns margins via cost austerity, there is Emirates Air that competes on luxury, allowing for premium pricing. Following the birth of the internet, technology became a source of advantage.

Organizations still concentrate on these traditional sources of competitive advantage, and these topics are taught in just about every college and graduate business program. At the same time, these sources are primarily tangential in terms of remedies to directly address the growing employee

cognitive overload and its *psychological* consequences. Organizations offer many educational opportunities for their employees as an answer to their calls for continual growth, doing more with less, and above and beyond performance. Upgrading skills, mastering more subjects, and learning new ways of thinking are sensible alternatives for reducing cognitive overload. However, they also entail elevated demands on attentional processing, making the net effect less unclear. This is perhaps paradoxical, but remedies that readily come to mind might exasperate the employee cognitive load because they require more attention to be absorbed.

Prior research in organizational behavior has examined several task attributes and behavioral remedies for cognitive overload.<sup>47</sup> For example, minimizing the frequencies of task switching, providing more straightforward and more instrumental feedback, being more careful in delivering negative evaluations, and reducing work interruptions are straightforward solutions<sup>48</sup> if they are feasible. Said differently, the extent to which these procedures are enacted regularly is uncertain in light of escalating competitiveness and decreasing time companies are willing to spend on employee development.<sup>49</sup> Research shows that employee cognitive load still significantly relates to risk aversion, impulsive behavior, stereotyping, and impaired judgment.

## Conclusion

Employee cognitive overload causes employee psychological distress, which leads to a multitude of health problems and performance impairments. This chain of events is a problem in today's organizations. Traditional approaches to competitive advantage in organizations are economically sound but unequipped to address this mental problem directly. For now, we have insufficient information upon which we can predict where AI will go, let alone how the application should look in organizations. We leave that as an exploratory conversation for the end of the book. Given the pervasive adverse effects of cognitive overload on a host of outcomes, as reviewed in this chapter, a skeptic may conclude that the extant approaches to mitigate it are not being used, used properly or not working. New approaches appear to be needed to address overload and enhance human sustainability at work. The next chapter discusses what conceptual frameworks can guide this conversation forward.

## Discussion Questions

- Discuss your reaction to the statistics on work-related psychological distress. Do these numbers surprise you? Why or why not? What are some antecedents to work-related psychological distress that you have witnessed or experienced?

- Reflect on the historical evolution of the workplace and its lag in adapting to the modern family structure. What are the implications for both employees and employers?
- How do societal expectations regarding gender roles in work and family life exacerbate work–family conflict?
- Evaluate the effectiveness of current ‘solutions’ to work-related distress, work–family conflict, and work-attributed suicides, such as flexible work hours, remote work, and family leave policies. What are their strengths and limitations?
- Discuss the potential long-term economic and social consequences of failing to address the mental health consequences of cognitive overload in the workplace.

### Exercises

- Role-Playing: Divide into two groups – employers and employees. The employees will present their work–family conflict issues, and the employers will respond with policy solutions. Then, together, discuss the feasibility and potential impact of these solutions.
- Policy Proposal: Individually or in groups, draft a proposal for a new workplace policy that aims to reduce work-related distress, work–family conflict, and work-related suicides while maintaining productivity. Present the proposal to the group for feedback.

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# 5

## THEORY GUIDANCE TOWARD HUMAN SUSTAINABILITY AT WORK

### Moral Matrices, Business Concerns, Science, or All of the Above?

The data reviewed herein challenge the tenability of our contemporary work paradigm, prompting an examination of frameworks that could inform a discussion on human sustainability at work, going forward. The question addressed in this chapter is multifaceted: What conceptual framework should guide our progression toward a more sustainable human experience at work? If it appears documented that we cannot continue as is, how *should* we work/live then?

This inquiry necessitates an initial probing of dominant perspectives before proceeding with points and counterpoints. They are frequently far apart, ranging from the preeminence of moral predicates (i.e., this is the right thing to do, regardless of other concerns) to the supremacy of scientific conclusions (e.g., this is how the world works, regardless of other concerns), with profitability concerns (i.e., profitability is necessary for businesses to survive and for people to thrive) being somewhere in the middle. The moral stance prioritizes moral imperatives, i.e., there is an intrinsic, if not divine, value to human life and experiences as the guiding set of principles for workplace design, conduct, and decision-making. The following approach, commonly referred to as the “business case,” tries to align behaviors with the goal of profit. This view posits that profit is indispensable for the survival of organizations and individuals; thus, future strategies should be evaluated primarily through their contribution to financial outcomes. Finally, science strives to understand “how the world works” and then perhaps inform “what could be” based on empirical evidence as the foundation for developing future behaviors and norms.

Our experience as management professors researching and teaching these topics has revealed a lack of common ground in the polemics. Rather than

fostering dialogue, the polarized debates widen the trenches, complicating the search for a middle ground. Consequently, the conceptual framing of this book is not yet another plea for either morals, profitability, or science. Instead, we adopt a point-counterpoint approach, aiming to dissect this complex discourse with nuance. By setting aside untenable solutions, such as slowing down global competition, we explore various conceptual frameworks that could guide remediation efforts. These include a moral approach rooted in the sanctity of life doctrine, an organizational strategy anchored in the pursuit of profitability, and a scientific method predicated on the universality of empirical evidence. We discuss these perspectives to find a common thread weaving through that can guide dialogue, going forward.

In this context, by looking for a guiding framework or theory, we mean *a priori* reasoning, logic, or a conceptual model depicting the pattern of relationships. This is distinct from *a posteriori* responses or reactions, such as appeasing media narratives or shifting according to political trends. Further, our use of the word “theory” is not to be confused with unfounded conjecture but rather denotes a substantiated body of knowledge backed by empirical evidence (e.g., theory of moral reasoning, goal-setting theory of task performance). The need for a theory-grounded approach when considering human sustainability at work or any other topic emerges from the necessity for an internally coherent framework to guide the narrative. A robust and valid theory is a blueprint fostering the synthesis of varied perspectives. How scholars articulate their central propositions not only influences the trajectory of future inquiries and the scope of discourse but also frames the methods chosen for testing, ensuring that applied interventions developed are grounded in evidence and appropriately structured.

Theoretical frameworks act as intellectual guardrails, ensuring balance and relevance in the discussion, especially concerning specificity and generalizability. For conversations centered on the U.S. context, a theoretical model tailored to the nation’s unique socio-political-economic landscape can streamline discussions, yielding more coherent and actionable strategies for enhancing human sustainability at work. Such a model could inform policy development by resonating with the American regulatory and cultural milieu. However, the strength of this localized focus is also its limitation. While a U.S.-centric framework may offer valuable insights into American practices, its predicates might not translate seamlessly to the international arena, composed of varied social ecosystems. In a global context, the prescriptive utility of a nationally tailored framework may be limited. Acknowledging these boundaries and considering adapting theoretical models to maintain relevance across diverse global landscapes is important.

Conversely, an all-encompassing framework covering many political, cultural, and economic dimensions could offer a panoramic view of human sustainability at work, providing exhaustive insights across varied contexts. Such a comprehensive approach has the potential to illuminate the intricacies

and particularities of disparate settings, thus fostering tailored interventions. Yet, the expansive scope of such a framework may be burdened by excessive boundary conditions. They can create a granularity that, while beneficial for specific contexts, might obfuscate the broader principles. In striving for inclusivity, there is a risk that the framework becomes so contingent on particular variables that its universality is compromised, restricting its understanding and application to scenarios that mirror those conditions closely.

Further, how do we choose an applicable framework given that understanding human sustainability in the workplace does intersect with both moral imperatives and economic pragmatism? On the one hand, acknowledging the intrinsic moral value of human life posits that moral frameworks should be paramount in guiding discussions on human sustainability. This perspective is rooted in the view that achieving sustainable human practices is undergirded by moral obligations to the sanctity of human life, regardless of the loci of action. Consequently, the sustainability strategies would be driven by moral matrices, emphasizing respect for human dignity, equitable work resource distribution, and stewardship of work and natural environment.

On the other hand, an equally valid viewpoint underscores the instrumental value of work, advocating for business imperatives to take precedence in this conversation. This perspective is based on the premise that working is a foundational component of societal functioning, economic stability, and individual well-being. Thus, the argument follows that businesses, being at the forefront of economic activity, should spearhead the conversation on human sustainability. The rationale is that sustainable business practices ensure the enterprise's longevity and secure the resources necessary to support human livelihoods.

What about science? That is today's new buzzword, and who knows what scientists will come up with next? The deliberation over which perspective should guide the conversation on sustainability in the workplace involves navigating a complex interplay among moral considerations, business concerns and hopes that science will tell us how to live. In doing so, we offer a path that first discusses several fundamental predicates in moral psychology and then examines how work, economy, and science can be configured within moral collective priorities. Engaging in this discourse requires a multidisciplinary approach, drawing insights from philosophy, psychology, and business literature to forge a synthesis that honors the moral imperatives while recognizing the pivotal role of work as a conduit for sustainable life.

We advocate for a multifaceted approach based on the juxtaposition of several factors. We have little intellectual tolerance for deterministic views that either morals, business, or science can single-handedly address a complex issue such as cognitive overload at work and provide sustainable solutions. Moral guidance that leaves one economically destitute is as questionable as pursuing wealth for its own sake, without any other purpose.

Both extremes lack balance. One neglects the practical necessity of financial stability, while the other disregards the fulfillment that comes from purposes beyond material gain. Science meticulously details the biological foundations of life but intentionally refrains from dictating how we should live it. Just as understanding the mechanics of wealth does not prescribe the purpose of its pursuit, knowing the biology of life does not tell us how to live it. There are simple solutions to complex problems in life, and they are almost always wrong, including nihilism.

### **Moral Matrices**

In his seminal declaration “God is dead” in 1882, Friedrich Nietzsche alerted the modern psyche to the waning influence of religion as the dominant framework guiding human existence. Nietzsche’s proclamation was not merely an obituary for theism but a broader commentary on the shifting ethos and logos of the time, where traditional metaphysical and moral underpinnings of life were increasingly questioned, and secular paradigms were steadily gaining prominence.

By bestowing humans with the concept of an eternal soul, Christianity places humanity at the pinnacle of creation. The Christian doctrine posits that the material body is temporary, serving as a vessel for the soul, which is the essence of a person’s true self. Because the soul is everlasting and divine, humans are seen as created in God’s image. Material existence is relegated to a secondary status, echoing the Biblical assertion that the soul is paramount.

Even without debating the religious faith per se, one could argue that its very concept would warrant creation for its societal benefits alone. Historically, religion has provided narratives – myths in their traditional sense, not derogatorily – to help humanity endure the existential challenges posed by natural disasters, human vices, and mortality. These narratives have offered solace and some explanation through life’s tumultuous events, from devastating storms to crop failures to the untimely death of children. They have also served as a moral check on human behaviors, such as greed, and instituted practices like the Sabbath, offering respite to laborers from the relentless work demands, whether observed on Saturdays or Sundays.

In the late 19th-century U.S., little stood in the way of burgeoning capitalism from operating factories seven days a week, except for religious observances. Profits were pouring in, and the norm included a six-day work week and 12-hour days, with children often laboring alongside adults and altogether in unsanitary and hazardous conditions. The market’s invisible hand is economically efficient but also blind on moral grounds, as that was not its charge by society. Religion filled this void, offering a moral counterbalance to the economic rationale.

Today, though, the societal draw on religion to inform the meaning of life has never been weaker. Data collected by the PRRI Census show a ten-year decline in people who identify as Christian. The percentage change of religiously unaffiliated people is 41 percent over the last decade, rising from 19 percent in 2012 to 26.8 percent in 2022.<sup>1</sup> Pew Research Center estimates that by 2070, only about one-third (35 percent) of all Americans will identify as Christians, with unaffiliated religious people comprising over half (52 percent) of the U.S. population.<sup>2</sup> The decline of religion and the rise of “no affiliation” or “nones” has many causes and likely far-reaching consequences for life, work, and civil society, especially in light of its historical influence on human life.

### ***Existentialist Philosophy and Moral Psychology***

The Danish existentialist philosopher Søren Kierkegaard once suggested that “purity of heart is to will one thing” (1847). This maxim underscores the limitations of philosophy alone, or this author, in addressing the multifaceted nature of existential problems. For example, if we were to embody Kierkegaard’s ideal by willing only love, our hearts would be deemed pure. However, this leaves the reasonable needs for economic security and a fulfilling career unaddressed. Conversely, if one’s only will is to secure material needs, it calls into question the purpose of such sustenance in the loveless vacuum without fulfilling human connection and the broader tapestry of desires. Though existentialist philosophy provides valuable insights, it must be complemented by understanding moral values addressing real/lived human needs.

Moral psychology is a branch of psychology that examines how multiple facets of morality influence human behavior and societal dynamics. These dimensions include care versus harm, fairness versus cheating, loyalty versus betrayal, autonomy versus coercion, and sanctity versus degradation. This branch of psychology posits that human behaviors are deeply rooted in these moral foundations, and the absence of such guiding constructs would lead to markedly different personal conduct and social interactions, most likely for the worst. Imagine a life that is based on harm, cheating, betrayal, coercion, and degradation versus its positive counterparts.

The origins of these moral dimensions are traced to Ancient Greece, where they were recognized as essential elements of individual conduct and the preservation of social order. Greek philosophers understood that a life devoid of meaning could lead to personal and societal decay, as humans are prone to fall into patterns of cruelty, deceit, malice, and debauchery when unmoored from moral principles. To date, the sheer existence of these concepts within moral psychology suggests that they still underpin individual decision-making and serve as the bedrock for cultivating human behavior and at least somewhat harmonious social/collective existence.



Importantly, morality extends beyond avoiding harm by including restrictions on behaviors considered wrong regardless of immediate harm – a concept explored by Kant in the 18th century. To illustrate, consider an anecdote where Moses, descending from Mount Sinai, announces to the Israelites, paraphrasing: “I bring both good and bad news. The good news is that I negotiated the number of commandments down to ten. The bad news is that adultery is still there.” This joke encapsulates the ongoing human struggle with moral predicates. That is, moderation of human “vices” has long been a complex issue in Western societies, where many behaviors, though not outright harmful, are left legally unregulated.

Without a moral compass to fill this void, it is challenging to discern improvement, set aspirational goals, or understand actions that could undermine society’s fabric of harmonious existence. Moral norms have bridged this void, facilitating the coexistence of diverse individuals by instilling a sense of informally binding communal values. These norms are embedded within our collective consciousness, guiding social conduct often beyond our explicit awareness. They act as the silent keepers of social bonds, ensuring that even when pursuing personal freedoms, the community thrives or avoids perpetual conflict, owing to some basis of shared morality.

For example, research suggests that individuals may act according to moral principles, even when they consciously believe they are guided solely by rationality. Pioneering work by Professor Jonathan Haidt in moral psychology demonstrates that rational explanations often fall short of explaining human behavior. Take, for instance, Haidt’s provocative inquiry into the social acceptability of incest between consenting adult siblings who practice safe sex and secrecy and are both happier after the fact than before it, i.e., there is more net happiness in the world. When posed with this scenario, many participants instinctively react with discomfort or disapproval, resorting to “that’s weird” instead of a logical, no-harm argument. This reaction suggests an underlying moral judgment that operates beneath the surface of consciousness. Even those who profess to lack strong moral convictions find themselves influenced by deep-seated moral intuitions. These findings indicate that moral reasoning is a conscious process and an intrinsic part of our psychological makeup that subtly informs our judgments and actions.

Some key economic principles and related debates – whether to seek maximum benefit for minimal cost, anyplace, anytime – pale in complexity when contrasted with moral quandaries such as the incest dilemma mentioned above. Human behavior often transcends the simplistic “count-the-coin” approach associated with economics. For instance, the decision to have children, despite them being pure economic loss most of the time, indicates the presence of deeper motivations. Children evoke a nurturing response; they present a continuation of genetic lineage, a symbol of evolutionary success, and fulfill emotional and psychological needs by prompting us to care for, nurture, protect, guide, and, above all, love them.<sup>3</sup>

Said more cursedly, the perpetuation of one's genes signifies evolutionary success in the highly discerning arenas of natural and sexual selection. Yet, our care extends beyond our offspring to others, a phenomenon rooted in empathy, an evolutionary imperative that Carl Jung conceptualized as part of the collective unconscious. This shared moral heritage reduces the need for each generation to relearn vital social behaviors.<sup>4</sup> Inherited, or according to Jung, evolutionarily few-forward, empathy is exemplified in scenarios where community care prevails over self-interest, such as when a child accidentally wanders into danger on a neighbor's pool, and the neighbor rushes without even thinking to save the child, even though it is not his/hers. The concern for others, not just economic self-interest, often proves to be our saving grace, highlighting the multidimensional nature of human behavior that goes beyond economic self-interest at all costs to include an array of moral and social considerations. Thus, we believe that some moral matrix could guide efforts toward human sustainability at work. This position has social merit, but reasonable considerations of business concerns can counterbalance it.

## **Business Concerns**

The main argument in this section is that profitability and other business concerns should not be excluded from the conversation on human sustainability at work on moral grounds alone, despite the longstanding tension between moral and economic perspectives. Consider the Biblical passage, "It is easier for a camel to go through the eye of a needle than for a rich man to enter the kingdom of God," which warns of the spiritual hazards of wealth pursuit. Similarly, Mark Twain remarked, "The lack of money is the root of all evil," suggesting that moral corruption stems not from wealth itself but from the absence of it. These lines illustrate a complex interplay between morals and affluence, stressing the need for an approach that integrates morals and the realities of economic success. Said differently, we are unsure how sustainable solutions for human sustainability at work can be found without such juxtaposition.

Discussions about capitalism often begin with a critical view, mainly focusing on the high-stress "rat race" it is perceived to engender. Considering capitalism's adoption as the dominant economic system globally, it is crucial to understand both its shortcomings and merits. Critiques of it frequently become exaggerated when the complexities and variants of capitalism, along with its viable alternatives, are not fully appreciated. Therefore, we believe that any critique of capitalism should be coupled with acknowledgments of its successes, such as its role in driving innovation and economic growth. A balanced approach allows for a more

informed debate on how capitalism can evolve to serve human sustainability in the workplace better.

The metrics society gauges success by are critical when evaluating a guiding framework forward. Capitalism was not designed to serve as a guiding moral philosophy nor to provide a model of life free from greed. Its purpose was to catalyze economic development, as measured by increased production, a goal that has been achieved on a global scale.

Perpetual economic growth is central to capitalism. In contrast, pre-capitalist societies saw little change in the size of the economies. The church would suppress greed, citing morals and avoiding conflict from greed and competition over non-growing economic resources. By promoting the idea of an expandable economic pie through perpetual growth, capitalism offered a solution; greed was not a vice to be curbed but a motivator for progress. Such framework posits that with economic growth, the adverse effects of greed are mitigated by the increasing wealth it helps generate. This model has effectively addressed issues that religious or ideological leaders could not, e.g., reducing hunger, improving living standards, and funding scientific progress, which are testaments to the success of capitalism. However, a discussion of the many successes achieved through capitalism is incomplete without asking *at what cost?*

At an individual level, at least in the U.S., today's luxuries become tomorrow's necessities. The adage, "keeping up with the Joneses" is not just an idiom – it has become a suburban mandate. The notion that a family would own a second or even third car has become less of a luxury and more of a baseline expectation, not to mention owning a bigger house in a posher neighborhood. Today, you can almost hear the neighborhood whisper if your child pedals by on anything but a Trek bicycle as bystanders cast a doubtful eye on you as a provider. By age four, we must admit that our youngest is already a digital native, clutching his smartphone and tablet and already having mastered a Super Mario Smash Bros game on the Nintendo. These technology gifts were born out of a desire of his brothers, grandparents, and aunts to give him the "essentials" for modern childhood. In this theater of materialism, how does one step off the treadmill and declare a retreat from the "rat race" and return to simplicity? Mention scaling back, and your spouse might snidely suggest it is something to consider after the kids are out of college, implying never. There is a tongue-in-cheek saying that the unspoken dread of every spouse in the U.S. is a suspicion that her spouse might be the one who "couldn't cut it" (i.e., is a looser), a joke that underscores the relentless pressure to succeed in the U.S.

Institutions were convinced to go along with capitalism because it was easy for humans to want more, and the promise of a bigger economic pie assuaged the fears of greed disturbing social harmony. The market's invisible hand appealed to the ruling elite because it seemed an intuitive self-regulating mechanism that required little intervention and promised efficiency over

the alternatives. Both Socialist and Communist systems stumbled over the complexities of centralized state planning, which, despite being theoretically straightforward, collapsed under the weight of exhaustive demands for foresight and control, failing to deliver sustained growth.

Both capitalism and its ideological rivals agree that economic growth is good. Capitalism achieves it through distributive information sharing, allowing the market's invisible hand to determine price effortlessly. Price formation under such an arrangement is so simple that it becomes appealing. Take, for instance, the pricing of a standard smartphone. In a capitalist system, various manufacturers can produce smartphones with many features, introducing them into global markets. Consumers, equipped with information about the features, prices, and availability, make purchasing decisions that reflect their preferences and budgets. The myriad of individual choices and production decisions "naturally" come together into a market-determined price for smartphones. This process is organic; it requires minimal centralized direction and has proven effective. This hands-off approach underpins the argument for free markets: the less encumbered the market, the more efficiently it operates.

In contrast, centralized state planning operates on the premise that the government can eliminate market fluctuations, allowing for the precise calculation and planning of product prices in advance. In this system, the price of a commodity would be computed based on a formula derived from Marxist economics: the sum of material costs, labor, and a margin reinvestment – not profit. However, because both the cost of production and labor are artificially set by state committees, the resulting price is more an artifact of bureaucratic decision-making than of actual market forces. The inadequacy of computing power to handle such overwhelming calculations, the artificial nature of set prices that fail to stimulate production, the absence of profit motive leading to lack of investment in innovation, and inevitable shortages were some of the shortcomings that have historically plagued such systems. As a result, these systems often face inefficiencies and scarcities instead of the intended planning precision of economic activity.

Theoretically, if data processing was the sole barrier, a sophisticated algorithm paired with enormous computing power might suffice to manage an economy centrally, but we are not there yet. Even so, the cost of developing and running such a system could exceed the distributed costs among many individuals as they freely exchange information. However, those costs are likely baked into the price at some level. Many people today seem drawn to the social ideals of socialism and communism, yet there is often a gap in understanding the mechanisms at play.

The appeal of socialist and communist ideologies is often attributed to promoting concepts like economic equity and social justice – principles that resonate deeply in a world where inequality is stark and visible. The promise of more evenly distributed resources and equal access to opportunities is

compelling, especially against the backdrop of the perceived failures of modern capitalism to address these disparities. However, what is overlooked is the complex economic orchestration required for these systems to function. Centralized planning demands vast amounts of data and requires a nuanced understanding of human needs, behavior, incentives, and economic dynamics. Historically, these systems have not delivered, as they had been marred by inefficiencies, shortages, and suppression of individual freedoms, all outcomes at odds with the very principles of social justice that make these ideologies attractive to some.

It seems fair to conclude, at least tentatively, that with all its shortcomings, capitalism has worked the best. Among many other reasons, capitalism is intuitive for people to get their heads around. Socialism and its more radical version of communism both failed to deliver. Their convoluted ideas, such as “from all to their abilities, to all according to their needs,” are not easily graspable, let alone measurable. That literature also does not explain why the “dictatorship of the proletariat” had to be a “dictatorship”? Moreover, advocates of alternative systems often fail to appreciate the role of incentives in driving innovation and growth, which improve lives. The balancing act between meeting individual needs and achieving collective goals is full of moral and practical dilemmas that have yet to be aligned. The challenge of creating a system that combines the drive and success of capitalism with social justice and equity remains open.

We believe this brings us back to today’s capitalism, with its complexities. For one, its best part, the free market’s invisible hand, is its Achilles’ heel. Though economically successful, it is morally blind, and we do not mean that pejoratively. It shows us how to get rich but not how we should live. Why judges should not be corrupt, why physicians should not be greedy at the expense of patient care, why students should not be for-profit customers from whom every penny shall be squeezed, like in trade. Some moral guidance is needed for that. What do we do with constant growth if we do not sustain it with continuous spending? What if that has created lifestyles of unsustainable psychological cost of working, as reviewed in Chapter 4? What good is sustainable growth if followed by unsustainable mental dread? The moral voids of capitalism need to be filled by some form of moral philosophy; neither alone suffices.

## Science

Maybe science can solve this problem. Scientific inquiry and its application in modern society are increasingly prevalent, representing a significant shift toward an evidence-based understanding of the world. Yet, science is not an ideology; instead, it is a systematic approach to discerning empirical truth. Science critically examines or deconstructs ideological assertions, employing testing to separate verifiable evidence from speculation. However, science does not inherently prescribe normative moral ideologies; it offers descriptive insights into the workings of reality as they are, not as they should be. At

best, it lays the empirical groundwork upon which perhaps new philosophical and moral interpretations of life can be (re)imagined.

The ascent of the scientific method has precipitated a profound reevaluation of long-held beliefs about our place in the universe. Scientific discoveries have overturned the geocentric worldview, replacing it with the reality of a heliocentric system and Earth's sphericity, situating our planet as one among countless others in an immense universe. With an estimated hundred billion galaxies, each with around a hundred billion stars, and each starting with multiple planets, the likelihood of Earth's centrality becomes infinitely tiny (one in eight septillion, or one in 100 billion galaxies  $\times$  100 billion stars  $\times$  eight planets, say in the Solar System).

Similarly, advances in biological sciences have challenged notions of anthropocentric uniqueness. The discovery that human DNA is approximately 98 percent identical to that of chimpanzees invites a reevaluation of the longstanding theological notion of humans as the epitome of creation, made in the image of God. This genetic proximity to other primates shows a shared evolutionary heritage, and it indicates that our behaviors, once thought to be exclusive to our species, actually have deeper biological roots that we share with other forms of life.

Cognitive psychology has pointed to the concept of humans as cognitive misers, reflecting the psychological cost of working in modern society. The essence of this concept is that people tend to conserve cognitive resources and respond to situations with minimal mental effort, as a result of limited attentional capacity.<sup>5</sup> The adaptive deployment of our cognitive resources, an evolutionary adaptation, leads us to rely on mental shortcuts, especially when faced with information overload. Instead of meticulously analyzing every situation, people tend to respond to situations in a cognitively most effortless fashion, conserving attention for more demanding tasks. Relatedly, research indicates that language processing, a sole feature of humans, presents a cognitive burden.<sup>6</sup> This suggests our brains have not fully mastered language usage, pointing to the complexity of language as a tool that our cognitive structures are still evolving to handle with ease. The variation in individuals' linguistic abilities hints at this ongoing adaptation, with the cognitive load of language manifesting in the variability of verbal abilities among individuals.

The scientific displacement of humans from a position of perceived centrality and glory raises significant existential questions. It challenges traditional anthropocentrism and compels a reassessment of human identity and our role within the broader ecological context. As we integrate these scientific understandings, it prompts interdisciplinary dialogue on reconciling our inflated self-concept with our biological kinship to other life forms and our place within the vastness of the universe. This ongoing conversation traverses moral, business, and science domains, shaping our worldview and informing our approach to the future.

This consideration evokes the dilemmas the father and brothers Karamazov faced in Dostoyevsky's classic novel. The father epitomizes the self-serving opportunism, or "what's in it for me" view, and his eldest son exhibits a marginally refined version of the same. Alyosha cannot conceive of life without the framework of religion and morality, unlike Ivan, who staunchly champions a scientific view of the world. Each brother grapples with the idea of suicide, as the narrow perspectives they hold are insufficient to explain their life's meaning, effectively lacerating their psyches. Yet, each is surprised at the inflexibility of views other than their own, thus unable to reconcile the lenses through which others view the world.

Acknowledging this complexity of views is much easier than convincing others of it. What is the value of something? Its purpose? So, what? Who cares? Based on what? Consider this dialogue exchange from the TV show *1923*, which illustrates all of the above points:

"What is that?" Cara asks, pointing to a gadget in the store window. "That's a washing machine," the salesman offers. "So, it washes clothes?" Cara's husband curiously asks. "Can you imagine!" Cara's mom marvels. The salesman elaborates, "An electric motor spins the cylinder as water is pumped through the machine, and the agitation removes any soiling." Cara gestures to the adjacent appliance, "And what does that wash?" "That's a refrigerator," the salesman clarifies, opening its door. "The top compartment keeps food frozen, and the bottom compartment maintains the temperature of 38 degrees." Cara beams, "And you sell these?" "We rent them," the salesman corrects. Her husband, skeptical, furrows his brow. "So, you sell electricity, and then you rent everything that needs electricity." "More or less," the salesman concedes. "We don't need any of these things," the husband asserts. Undeterred, the salesman pitches, "They offer convenience, freeing your time to do other things." "And what might that be?" the husband probes. "Other chores," the salesman suggests." The husband raises an eyebrow. "And when you invent machines to do those other chores, what?" "Why, you could go on a picnic, a swim, or to the cinema. You can enjoy a more leisurely life" the salesman paints the picture. "But leisure's costly," the husband retorts, "It means we have to work more to pay for all this stuff." "He's got you there," his friend backs him up. Unshaken, the salesman persists, "This is the future. Every home in New York City has electricity. They have refrigerators and even electric stoves." The friend interjects, "Now, here's the thing. We buy all this stuff; then we're not working for ourselves anymore. We're working for you." As the group begins to walk away, unpersuaded, Cara leans in and whispers to her mother, "The washing machine seems like a good idea, I must admit," sharing a knowing smile and soft chuckle.

## Moral and Science as Guides to Modified Capitalism, all Wrapped into Boundary Condition of Humanism

### *Critical Analysis of Juxtapositions*

The gradual retreat from theistic absolutes and moral predicates has been paralleled by the ascent of both capitalism and scientific rationalism. The eclipse of organized religion and fixed moral doctrines has ostensibly permitted a more unfettered expansion of the latter two systems of thought and practice. The rise of the scientific method since the Renaissance has ushered in an era of empirical observation and fact-based knowledge. This paradigm shift from religion and moral dogmas has changed our understanding of the world and our biological place within it. Science is irreplicable, allowing the world to move forward empirically and factually. However, although science tells us that we cannot breathe without oxygen, most people do not live only to breathe. What that should be, science cannot tell us. Further guidance is needed.

The obvious candidate is a modified version of capitalism. With roots in the material, principles of capitalism resonate with human instincts; self-interest comes easily to humans, and they require little cognitive contemplation, owing to tangible benefits. However, left at its own devices, capitalism's perpetual need for economic growth has brought organizations to the brink of implosion in terms of the psychological well-being of employees, as reviewed in Chapter 4. In contrast, connecting science and its discoveries (e.g., intuitively surmising the astonishing findings in quantum physics) is more complex than connecting capitalism and human greed.

Both capitalism and science have fulfilled their promises, but the meaning of life has not been one of them. Capitalism has delivered continuous economic growth, and science has done it by illuminating the empirical realities of existence. Yet, the quintessential question of life's meaning remains unanswered within their respective trajectories. This vacuum of purpose, once occupied by religion and moral psychology, presents a contemporary quandary.

There are many ways to ask what new "ideology" could fill this normative gap to help us address concerns about human sustainability at work, going forward, with the understanding that there is no moving back to dogmas of the past and from science as a baseline for understanding the material world. What narrative can reconstruct a sense of meaning that aligns with the realities of scientific understanding coupled with the capitalist milieu? Or, what is likely to rein in capitalism not to push us to the brink of existence in organizations but still deliver economically? What other factor can be as important as capital in the stem of *capitalism*? We suggest *humanism*, with the *human* at its stem. If we had to summarize this critical point of our work



in one sentence, it would be that only concern for a human – given our species still dominant role on this Earth – can put a believable guardrail to unbridled capitalism and prompt a more human-centric version of it.

We see humanism as a philosophy that centers around the value of humans and their undeniable agency on this Earth. Thus, human interests and their potential cannot be excluded from the equations of life created by (capitalist) society. In our version of humanism, supernatural views of reality are unnecessary because humans can lead fulfilled lives guided by science, accumulated experiences, history of reinforcement (i.e., whether those experiences paid off or not and go from there), and their preferences for the desired future.

Meaning in this constellation of factors would be derived, we suggest, from gauging what is being done economically against human interests – does this contribute to or detract from human interests – measured in multiple ways, not just economically. Thus, both economic progress and psychological *experiences of humans* jointly contribute to the meaning of the world. This might sound like an underhanded endorsement of socialism, but it is not. Mathematically speaking, to use “universal language,” we suggest looking at the economic nominator of the life equation and considering the psychological denominator for that nominator. If the result is negative – greater human pain than economic benefit – the pursuit should not be endorsed. This is the guiding essence of the humanism approach we propose to human sustainability at work.

To illustrate, economic spending is good for the economy, but many *humans* cannot repay exploding debt, gradually eroding their quality of life. Corporate performance is often driven by financial greed, which can lead to misconduct, harming *human* welfare. The latest research shows that as the economic prosperity of the cities grows, so does the racial segregation of *humans*.<sup>7</sup> Tax savings for businesses boost their financial bottom line but can result in underfunded public education and increased functional illiteracy of *humans*. If the unmitigated capitalism of today is so wonderful, then why are lawsuits, divorces, and rises in homicides and suicides at their height in the recorded history of the U.S.? These issues suggest a dissonance between capitalism’s benefits (nominator in the equation of life mentioned above) and psychological consequences (denominators in the equation of life). We have difficulty seeing other readily viable philosophical options to mitigate the unwelcome sides of capitalism while keeping its good sides, except to tie *capital* ism to *human* ism, with no commitment escape clause in the fine print.

Several assumptions are embedded in this call for a human-denominated approach to modified capitalism. First, this does not signify a loss of faith in capitalism but gaining equal faith in humans, such as acknowledging their psychological pain and valuing their experiences.

Putting humans center stage is not going back to their cosmic destinies or divine favors but instead emphasizing that the meaning of anything on this Earth cannot be fully materialized because meaning emerges from the interacting tapestry of human experiences. Would we really “Race to Save the Planet” if we were not on it? To ensure the garden of Eden all to the snakes? Without contributions of varied human experiences, is there meaning to be found?

The second assumption is that humans can, albeit not without challenges, navigate these complexities independently, i.e., without extraterrestrial guidance. We are mortal, and our lives are fickle compared with eternal souls, but we do have five senses that could empirically guide us, if not to eternal truth, maybe to meaningful Earthly cohabitation. Critics might suggest this will lead to sensual delusions and consequences, perhaps for some. But we are unsure most humans are devoid of reason and will descend to fleeting pleasures just because they are given a chance to govern their choices in finding workable compromises with the social system.

The third point calls for moderation of extremes. Milton Freedman’s mantra that the sole purpose of business is business is as narrow as Rousseau’s romanticized notion of “Listen to yourself, be true to yourself, trust yourself, follow your heart, do what feels good, and ... what I feel to be good is good and what I feel to be bad is bad.”<sup>8</sup> We advocate for a more balanced and practical inquiry into whether capitalism’s growth serves not just inanimate profits but also the animate, lived experiences of people. This involves weighing the positives against the suffering they may cause and seeking a balance informed by empirical evidence from various sources.

Fourth, customers are not always right. However, if they choose to buy something legal that gives them some objective utility or subjective pleasure, who are we to tell them that they should not? If we do, it should be based on science, not metaphysical predicates. This way, instead of debating the “Big books,” science mediates business and human interests.

Fifth, an obvious criticism of the humanism perspective is that different humans have different experiences, desires, and preferences, which cannot reliably be counted on. We respond that there is a common core of humanity everywhere. Anatomically, modern humans have existed for about two million years and evolved as *Sapiens* in the same place, East Africa.

Because humans have been anatomically identical to one another then and now, perhaps the conversation to be had is how big the common core of humanity is and whether we can act accordingly concerning human sustainability at work. Boundaryless global work fits into this conception.

Finally, the scientific method’s challenge to Biblical notions of human exceptionalism has necessitated concerted intellectual adaptation. However, science has not belittled humanity; instead, it has repositioned it from a place of supposed celestial centrality to one within an Earthly biological continuum. Humanism focuses on human prominence, not at the divine center

of the universe, but at the center of our crafted narrative informed by science and lived experiences.

## Conclusion

This chapter has juxtaposed challenges to historic religious and moral views, the traditional approach to capitalism, and science as a potential mediator between capital and human interests. The human quest for meaning and economic sustenance is an ever-evolving journey that requires us to continuously reconcile our moral compasses, economic systems, and scientific understandings of reality in pursuit of a world where human sustainability at work and elsewhere might come to fruition. To do so, we proposed humanism as a plausible approach to reining in the negatives of capitalism while maintaining its positives, as one of the few believable counterbalances to the economic importance of capital in *capitalism* is the value of humans in *humanism*.

## Discussion Questions

- Are moral predicates universal? Or, is *human* in *humanism* enough of a guide for building sustainable work practices?
- Business is economically instrumental to life, and it has important boundaries. One of them is profit, which, to organizations, is what oxygen is to humans. But most humans do not live just to breathe. There is more to it. Is there more to business than profit?
- How does ‘cognitive miserliness’ impact our understanding of humans?
- In what ways does scientific progress challenge traditional anthropocentric views, and what implications does this have for our self-perception?
- How can capitalism be modified to incorporate humanistic values without sacrificing its efficiency and capacity for innovation and growth?
- What role does language play, if any, in shaping our collective experiences and perceptions?
- Given the implied conflict between moral matrices prioritizing human (and environmental) well-being and business concerns focusing on economic viability and growth, how can policymakers, business leaders, and scientists create a consensus on a sustainable path forward that is morally responsible, economically sound, and scientifically supported? Is such a conversation impossible because it requires too much goodwill for these proponents to afford to each other?

## Exercises

- In a group, develop a consensus on life's most important 30 words. Then, pair it down to 15, then to five. For each stage, consensus is required. Discuss how easy it was to do this.
- Role-play debate: Form two groups, find a friend, or play both sides representing capitalism and humanism. Focus on the potential benefits and drawbacks of each.
- Creative writing. Write a short story from the perspective of a future society that has successfully integrated (modified) capitalism with humanism. Then, write a story that has not and has continued as is.
- Panel discussion. Host a mock 'expert panel' where a person represents each of the different fields – religion, moral philosophy, economics, and science (cognitive psychology), and discuss how to address the externalities of unbridled capitalism.
- Reflection essay. Write an essay on the potential impact of scientific advancements on societal structures, personal values, and organizational practices.

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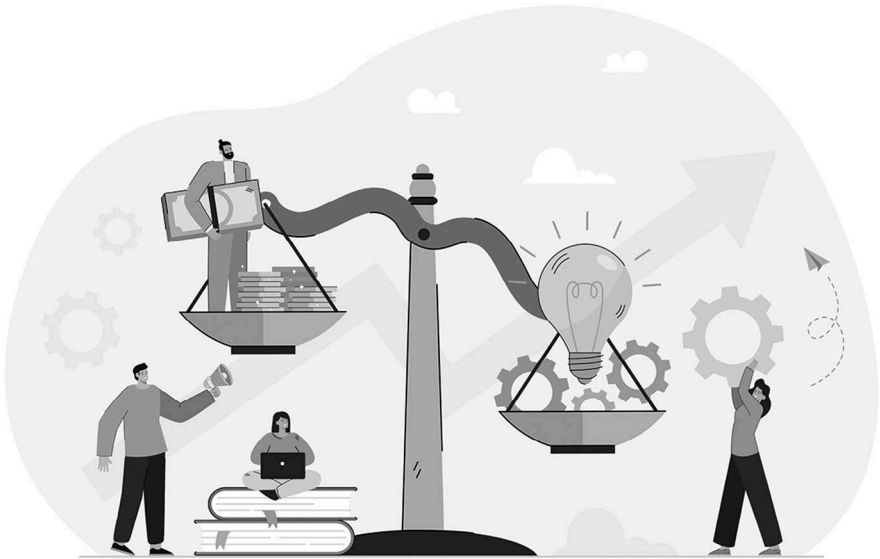
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## PART 3

# Toward Reducing Cognitive Overload and Fostering Human Sustainability at Work at Different Levels of Analysis



**FIGURE III.1** Finding the right balance  
Source: Image by pch.vector on Freepik.

We operationalize the preceding conversation in the following three chapters by offering practical suggestions for the fusion of *humanism* and *capitalism* from different levels of analysis – macro/structural, meso/organizational, and individual – at which different drivers of change can be found. We discuss multiple loci of change because a range of solutions is needed; data on what might be the most effective approach toward building human sustainability at work are currently insufficient to point to any one solution equivocally. Knowledge building is more likely to emerge by assessing three loci of change. Said differently, if economic systems, organizations, and individuals work at cross purposes, a point often overlooked given their different levels of analyses, cumulative insight leading to concerted change is unlikely. These three perspectives are elaborated in the following three chapters. We start with the macro analysis in the next chapter and reimagine the tenets of capitalism as a potential avenue for redress of cognitive overload at work. We critically examine multiple manifestations of capitalism – liberal, coordinated, and directed – and suggest modifications and integrations.

# 6

## MODIFY THE SYSTEM: PROS AND CONS OF LIBERAL, COORDINATED, AND DIRECTED CAPITALISM

The search for a new framework to bridge the gap left by the retreat of traditional ideologies poses a challenge, particularly in fostering human sustainability at work, as it is subject to multiple influences. In this chapter, we examine a proposition that the incumbent model of capitalism, despite remarkable resilience and success, might have become inadequate to engender changes toward sustainable human-centric work practices. Under the guise, “amend it, do not end it,” we reimagine some tenets of the extant system by suggesting that a moderate recalibration, infused with more significant social considerations, could pave the way for a more equitable and sustainable future of work. An easy copout by ideological minds is that because we have capitalism, capitalism is perfect. It is undoubtedly better than the failed alternatives of communism and socialism. But, as Churchill said about democracy, it is far from ideal, but we have nothing better. Thus, the following analysis involves a review of permutations of modes of capitalist existence, discerning elements to embrace and those to mitigate in service of human sustainability at work, and how effective public leadership is needed to bring that process to life.

There are different forms of capitalism today, each with distinct approaches to markets and governance. Liberal capitalism is prevalent in Australia, the U.S., and the United Kingdom. It generally advocates for a *laissez-faire* approach in most, though not all, sectors of the economy, where the market’s invisible hand shapes outcomes through self-attrition and self-selection to optimize efficiency. Think, for example, of the technology sector in Silicon Valley in the U.S. Here, companies often operate under the guise that innovation and market demands drive employment, with minimal



interference from regulations. Employees compete in a high-stakes environment where performance and adaptability determine longevity, success, and wealth.

Coordinated capitalism, primarily found in Western Europe and Scandinavian countries, emphasizes a more collaborative approach. Here, the government actively intervenes, utilizing state resources to support workforce sustainability and balance market forces with social welfare policies. This model often results in extensive social safety nets and active labor market policies to foster a resilient and adaptable workforce. Consider Germany's vocational education and training system, where the government collaborates closely with industry leaders to create a robust apprenticeship program.<sup>1</sup> This system pairs in-class education with on-the-job training, allowing students to gain practical experience while they learn. Businesses play a critical role by providing training opportunities, and the government offers support through educational infrastructure and subsidies. This partnership helps ensure that the workforce remains skilled and adaptable to the economy's changing needs, exemplifying how coordinated capitalism blends market dynamics with proactive governmental support.

Directed capitalism, seen in various forms across Asia and Latin America, particularly in China and India, combines the pursuit of wealth with traditional societal structures. In China, this may manifest as a paternalistic approach where managers are expected to take a caring, more familial role over their employees, aligning economic goals with collective well-being. This is exemplified by companies like Huawei, where the corporate culture blends the aggressive pursuit of global market leadership with Confucian principles that emphasize collective harmony and a familial approach to employee relations. Huawei is known for its 'wolf culture,' which stresses loyalty and dedication while providing employees with comprehensive welfare programs.<sup>2</sup>

This chapter aims to help us understand whether capitalism lenses and cultural differences are the same concepts, just packaged differently, or if they represent different approaches to work that need accordant delineation. This perhaps difficult conversation is essential because without identifying probable causes for and against human sustainability in various work contexts, it is hard to know what to focus on to implement, remedy, or foster it, going forward. That is, the idea of human sustainability at work might fail not because it is conceptually anemic but because the contextual factors positively or negatively reinforcing it was unaccounted for in the analysis and recommendations for practice.

## **Liberal Capitalism**

Liberal capitalism, as practiced in the United States, the United Kingdom, and Australia, represents an economic system combining a market-based

approach with limited regulatory oversight and some social welfare provisions. This model allows for the free flow of capital and labor, fostering innovation and economic growth while aiming to mitigate some inequalities and instabilities that unabashed capitalism may produce. The following exposition provides a concise yet comprehensive overview of liberal capitalism within these three nations.

### ***United States***

At its core, American liberal capitalism is characterized by a strong emphasis on individual entrepreneurship, private property rights, and a relatively limited government role in the economy. The U.S. economic model encourages competition and innovation, driven by a belief in the “American Dream” – the idea that anyone, regardless of background, can achieve success through hard work. Historically, this system has produced significant economic growth and technological advancement. The U.S. government plays a limited role in regulating the economy to ensure competition, protect consumers and employees, and address market failures. Examples include antitrust laws, securities regulation, labor standards, and environmental protections. Social welfare programs like Social Security, Medicare, and Medicaid represent a nod toward a more inclusive capitalism that seeks to provide a safety net for the less fortunate.

### ***United Kingdom***

The U.K.'s version of liberal capitalism shares similarities with the U.S. model but is rooted in a different historical context. Post-World War II, the U.K. saw the establishment of a welfare state with the National Health Service (NHS) and expanded social security systems. Over the years, despite fluctuations in policy, the commitment to combine market principles with social welfare has remained. The British economy is notable for its financial services sector, especially in London, a global financial hub. Like the U.S., the U.K. regulates its market to prevent abuses, maintain competition, and ensure consumer safety.

However, the U.K. has also experienced periods of more state intervention in the economy, such as nationalizations of key industries, including coal, steel, rail, and utilities, to protect jobs and ensure the delivery of essential services to all citizens. This approach was underscored by the belief that certain industries should be in public ownership to serve the national interest best. The U.K. also has more comprehensive social welfare policies, such as the NHS, which provides free healthcare to all residents at the point of use. This reflects a commitment to collective well-being over market-driven health provision. Welfare support, such as unemployment benefits

and social housing, has also historically been more extensive than in the U.S., reflecting a greater willingness to use government resources to mitigate inequities associated with capitalist systems.

### ***Australia***

Australia's economic system is a blend of liberal capitalism and social welfare policies, with a history of both labor-centric and liberal democratic ideologies shaping its policy. The country has a strong tradition of "fair go" capitalism, emphasizing equal opportunities and a safety net for all citizens. Though it endorses free-market policies, entrepreneurship, and trade liberalization, the Australian government also plays a significant role in providing and regulating essential services, such as healthcare, education, and retirement. The superannuation system, for instance, is a mandatory, government-supported pension scheme that compels both employers and employees to contribute to privately managed but government-regulated retirement funds. It is designed to ensure that citizens have sufficient savings for their retirement. Moreover, Australia enforces a relatively high minimum wage and other more robust labor protections than those in the U.S. and the U.K. These include mandated employee benefits, workplace safety regulations, and fair working conditions. Together, these elements craft a version of liberal capitalism that strives for economic dynamism and social equity.

### **Shared Characteristics and Distinctions of Liberal Capitalism**

All three countries share characteristics of liberal capitalism, such as the protection of private property, the existence of stock markets and capital raising, adherence to the rule of law, and relatively transparent regulatory environments. Each country also exhibits unique traits influenced by history, culture, and politics. For instance, the U.S. is often seen as the most market-oriented, with a higher tolerance for income inequality and a more privatized healthcare system. The U.K. and Australia tend to have more comprehensive social welfare systems and a stronger collective ethos in their economic management and social policy approaches.

For instance, maternity and paternity policies vary drastically. In the U.S., the Family and Medical Leave Act provides eligible new mothers up to 12 weeks of unpaid, job-protected leave. This leave is not mandated to be paid, and it applies only to certain employers and employees based on specific criteria, such as the size of the company, the employee's tenure, and the hours worked.<sup>3</sup> In the U.K., Statutory Maternity Leave entitles new moms to up to one year of maternity leave, regardless of how long they have worked for their employer. In addition, women are entitled to Statutory Maternity Pay, which depends on the length of tenure and earnings and can be paid up to 39 weeks, with the first six weeks paid at 90 percent and the

remainder at a fixed rate or 90 percent of average weekly earnings. New fathers can also request up to two weeks of paid paternity leave.<sup>4</sup> In Australia, like the U.K., new mothers have the right to maternity leave for up to 12 months. The Paid Parental Leave Scheme then provides up to 18 weeks of paid leave, which, unlike the U.K., is paid at the national minimum wage regardless of average earnings, provided the new caregiver's prior year earnings fall below the established threshold.<sup>5</sup> Like the U.K., new fathers are also eligible for up to two weeks of paid leave in Australia.

Each country is grappling with similar challenges within the framework of liberal capitalism, including the balance between market freedoms and social equity, the regulation of new technology, and the management of globalization's impacts on domestic labor markets. Challenges that contribute more directly to employee cognitive overload are as follows.

### ***Excessive work hours and intensity***

Liberal capitalist societies often prioritize productivity and output, which can lead to organizational cultures that demand long hours and high intensity. The push for maximizing profit and productivity can sometimes overshadow the importance of employee well-being. This high-demand environment can result in work-related stress and cognitive overload, as employees must maintain prolonged focus, handle high volumes of information, and frequently multitask. The cognitive demands of these work environments can lead to psychological distress, as is documented in the industrialized world.

### ***Job insecurity***

The flexible labor markets typical of liberal capitalist economies often result in precarious work arrangements, such as employment at will, zero-hour contracts, part-time work without benefits, freelance and gig work, and temporary contracts. Though these arrangements offer flexibility, they also contribute to job insecurity, which can create perpetual psychological distress for employees. The uncertainty about future employment can make long-term planning difficult, which increases emotional strain on individuals. This, in turn, taxes their cognitive capacity to manage other work-related demands effectively.

### ***Erosion of work–life balance***

The boundary between work and personal life has become increasingly blurred, especially with the advent of technology that enables employees to be connected to work around the clock. In liberal capitalist societies, the onus is often on the individual employee to manage this balance, with varying levels of employer support. Although technology enhanced work-related flexibility, it created a broad expectation that workers are available beyond previously

standard work hours. Research supports the notion that digital communication technologies, such as Slack, Microsoft Teams, and Zoom, are linked with work intensification, leading to longer hours and increased expectations of immediate responses.<sup>6</sup> Likewise, research has documented a connection between the “always on” culture and increased exhaustion, as employees feel they never really leave work.<sup>7</sup> This erosion of precise work and life boundaries can overload employees cognitively as they struggle to switch off from work and recover mentally. Psychological detachment from work during non-work time is crucial for recovery and well-being.<sup>8</sup> Without adequate downtime, employees can experience overload, leading to decreased productivity, increased error rates, and decreased job satisfaction.

In summary, liberal capitalism reflects a dynamic interplay between market-based economic principles and some state-mediated social policies. While the balance between these elements varies across the U.S., the U.K., and Australia, they share a common pursuit of an economic system that seeks to harness the benefits of a free market while striving to ensure some social welfare. However, the excessive work intensity and hours, job insecurity, and diminished work–life balance point to a need for a reevaluation of how work is structured and valued.

### **Coordinated Capitalism**

Coordinated capitalism in many Western European and Scandinavian countries contrasts with the liberal capitalist model through its greater emphasis on coordination and cooperation between businesses, labor unions, and the state. This model of capitalism diverges from a focus on individuals and the market-driven nature of liberal capitalism by fostering a collective approach to governance and social welfare. At its core is a multifaceted welfare system designed to provide extensive social security and mitigate inherent risks of market economies. It is characterized by active labor market policies aimed at promoting employment and ensuring quality work conditions, lifelong learning, and career development. Policies are typically determined in partnership among trade unions, employer associations, and government, underscoring a higher degree of worker participation in management and industrial relations.

Employees often have a say in management decisions through mechanisms like work councils or board representation. This participative approach is believed to contribute to a more equitable distribution of power within companies, hoping to lead to sustainable and socially responsible business practices. Additionally, industrial relations are characterized by collective bargaining agreements that extend beyond individual workplaces, covering entire sectors and sometimes the national economy. These agreements are reached through consensus-driven negotiations, reflecting the values of social harmony and long-term economic stability.

## **Western Europe**

Western European coordinated capitalism is notable for diverse institutional frameworks and arrangements tailored to their socio-economic contexts. These models are characterized by a concerted effort among employers, employees, and the government to develop economic policies that reflect a collective vision for society. The German model, often called *Rhineland capitalism*, exemplifies this approach with its balance of interests among stakeholders. The system involves strong regulatory frameworks that encourage long-term investment and stability. In the realm of corporate governance, banks play a substantial role, often holding significant stakes in companies and influencing their strategic direction. Additionally, the principle of co-determination – *Mitbestimmung* – empowers workers to participate directly in management decisions. Work councils are present at the plant level, and employee representation on supervisory boards at the corporate level ensures that the workforce has a voice in the organization's affairs.

Austria is another example of coordinated capitalism in action, where dialogue and consensus between the government, organizations, and labor unions plays a role in economic and social policymaking. Key players in this model include the Chamber of Commerce, Chamber of Labor, Agricultural Chamber, and Trade Union Federation, which regularly engage in collegial negotiations to address economic and social issues. Austria has a centralized wage bargaining system, where the social partners negotiate collective agreements that cover entire industries, leading to a high degree of wage coordination. This has contributed to low wage dispersion and limited industrial disputes, resulting in a stable and more predictable economic environment.

In France, the coordination between the state, labor, and businesses is somewhat more state-centric, with the government often actively directing the economy and supporting national champions in critical industries. French industrial relations are known for their centralized collective bargaining, sometimes resulting in nationwide agreements that set the tone for wages and working conditions across various sectors.

Social welfare systems in Western Europe are relatively extensive and financed through employer contributions, payroll taxes, and general taxation. These systems aim to provide comprehensive healthcare, education, unemployment insurance, and pensions. The intent is to reduce economic insecurity and provide a high standard of living for all citizens, which is typically seen as a fundamental human right rather than a privilege.

## **Scandinavia**

Scandinavian coordinated capitalism takes this model even further, with a philosophy that intertwines economic efficiency with social equity, known as the Nordic Model. These countries, including Sweden, Denmark, and

Norway, are distinguished by their high levels of unionization, with unions playing a crucial role in shaping labor market policies and welfare provisions. This system has an engrained, deep social contract underpinned by a culture of trust and an egalitarian ethos. Social cohesion is prioritized, and the economic policies reflect this, with high levels of investment in education, healthcare, and social services.

Labor markets are characterized by the *flexicurity* system, which combines labor market flexibility with strong social security. On the one hand, companies can adjust their workforce according to market demands, contributing to a dynamic and competitive economy. On the other hand, workers are supported by a comprehensive safety net, including extensive unemployment benefits and active labor market policies to facilitate quick re-employment and career transitions, often through state-sponsored training programs. Industrial democracy is a hallmark of the model, not merely a legal requirement but a societal norm. Employees are represented on boards and included in corporate decision-making processes. This practice reinforces a cooperative business culture and ensures that employees have a say in the direction and policies of their employers, promoting transparency and mutual respect between workers and management.

The Scandinavian model also emphasizes the importance of social investment, with investments in education, from early childhood to higher education, which is mostly free. Investment extends to other public services, such as healthcare, childcare, and elderly care, all designed to be universally accessible, supporting the idea that the quality of these services should not depend on personal income. Likewise, there is a commitment to gender equality and work–life balance. Generous parental leave policies, state-supported childcare, and flexible working hours are standard, enabling men and women to participate fully in the labor force while balancing and having time to tend to their family responsibilities.

Overall, the Scandinavian model of coordinated capitalism strives to balance economic innovation and competitiveness with social inclusion and welfare. The emphasis on consensus and collaboration has led to resilient economies capable of adapting to global changes while maintaining high levels of social cohesion and trust within their societies.

## **Shared Characteristics and Distinctions of Coordinated Capitalism**

In Western Europe and Scandinavia, coordinated capitalism is underpinned by the principle that economic decisions should not be left solely to market forces or individual actors. There is a common belief that financial performance and social welfare are not mutually exclusive and that comprehensive social security systems can contribute to a stable and productive economy. Education and vocational training systems ensure a skilled workforce that can adapt to changes. This investment in human capital is essential to

maintaining competitiveness in the global economy. Environmental protection is another area where coordinated capitalism has been proactive, with European countries leading in the adoption of sustainable practices and regulations aimed at combating climate change and promoting green technologies.

In terms of challenges and adaptations, coordinated capitalism faces challenges in the era of globalization, technological change, and shifting political landscapes. Economic pressures and demographic changes, such as aging populations, continually test the ability to maintain high welfare and social protection standards. Moreover, increased immigration has put pressure on the social solidarity that underpins the system, and there is ongoing debate over how to integrate newcomers into the social fabric. Despite these challenges, countries practicing coordinated capitalism continue to adapt, seeking ways to preserve the essence of their model while finding new paths to economic dynamism and social welfare. They represent experiments in balancing the forces of market capitalism with a commitment to social equity. However, some aspects of coordinated capitalism can contribute to employee cognitive overload.

### ***Complex regulatory environments***

Although the strong regulatory frameworks in coordinated capitalist systems provide worker protections and benefits, they can also lead to complex bureaucratic processes that employees and businesses must navigate. The cognitive load associated with understanding and complying with many regulations, policies, and legal requirements can be significant and occasionally overwhelming. Workers must stay abreast of various entitlements, participate in work councils (which often require additional training), or engage with union negotiations, all of which can add to the cognitive demands of their roles.

### ***Risk aversion and resistance to change***

Coordinated capitalism tends to foster stable work environments with a strong emphasis on job security and worker rights. Though job stability is generally positive, it can result in risk-averse organizational cultures that are resistant to innovation and change. For employees, this can translate to dealing with outdated practices, technologies, and workflows that might not be the most efficient, adding unnecessary complexity and cognitive strain to their daily work. For example, in the telecommunications industry in some Scandinavian countries, there has been a reluctance to phase out older infrastructure. Despite the availability of more advanced and efficient technologies, existing structures are maintained for extended periods. As a result, employees are forced to continue working with outdated, cumbersome systems, causing frustration and inefficiency.



### ***Balancing consensus with individual autonomy***

While fostering cooperation and reducing workplace conflict, the consensus-driven approach can lead to slower decision-making and diffusion of responsibility. Employees may find themselves in many meetings and consultations, which can be mentally taxing and time-consuming. Moreover, the need for consensus can stifle individual initiative and creativity, potentially leading to frustration and disengagement. This can create cognitive dissonance for employees who must align their working styles with collective practices, leading to increased cognitive load as they navigate these work dynamics.

For example, in 2023 Tesla employees in Sweden went on strike, claiming that they were subjected to a “typical U.S. model” with six-day workweeks, unavoidable overtime, and an unclear evaluation system for promotion, which clashes with the Swedish Model of cooperation between employers and employees.<sup>9</sup> The strike has lasted months, with ~15 unions trying to force Tesla to negotiate a collective bargaining agreement. Most Swedes supported the strike, viewing it as a defense of the country’s consensus-based system of doing business. Moreover, union workers across Denmark, Norway, Finland, and Sweden stopped unloading Tesla vehicles from ships, repair shop workers stopped servicing Tesla cars, postal workers quit delivering Tesla license plates, and electricians would not repair Tesla charging stations, underscoring the power of collective action and deep-rooted solidarity within the labor in these countries.<sup>10</sup>

In summary, despite some negatives, coordinated capitalism is often commended for the high level of collaboration between employers, unions, and governments. This model maintains market competition of capitalism but also emphasizes social welfare, relatively inclusive labor policies, and a balance between work and family.

### **Directed Capitalism**

Directed capitalism is a hybrid model combining state-led development elements with market-oriented reforms and mechanisms. This system, often seen in countries such as China, South Korea, and India, operates on the premise that the state has the capacity and authority to guide economic activity and development toward specific national goals. This model includes varying degrees of state ownership, planning, and intervention in the economy, and it also incorporates market mechanisms to different extents. Directed capitalism, as practiced in these countries, reflects a shared belief in the state’s capacity to be an effective economic actor, not only as a regulator but also as a participant and director, with the ultimate goal of fostering national economic development and improving the country’s standing on the global stage.

## **China**

Chinese capitalism, often called *Socialism with Chinese characteristics*, represents a blend of state-directed economic planning and market-based practices. The Chinese government controls critical economic sectors such as banking, energy, and telecommunications through state-owned enterprises while encouraging private enterprise and foreign investment. This model is characterized by the government's decisive role in guiding the economy, with Five-Year Plans outlining significant national objectives. Unique to China, these five-year economic development plans are determined by the Congress of the Chinese Communist Party (CCP) and not necessarily by the legislative or executive branches of the government. Said differently, the latter two cannot develop their five-year plans without the consent of the CCP.

Once established, the state directs investments towards these priorities to stimulate growth and foster industries it considers critical for the plan's future. The state also tries to maintain social stability. The Chinese approach has enabled rapid industrialization and economic growth, lifting millions out of poverty since 1980. However, this model has also faced challenges, including environmental degradation, mounting wealth inequality, and complexities of managing economic cycles. Further, the state's role can lead to inefficiencies and corruption, and the government's role in the economy is a point of contention in international trade relations.

## **South Korea**

South Korea's directed capitalism, often described through the framework of its "developmental state," has been a driving force behind its transformation into an economic powerhouse. In the post-war era, the government made concerted efforts to direct economic development, identifying and supporting critical industries for national advancement. The government fostered close relationships with chaebols and sizeable family-owned business conglomerates such as Samsung, Hyundai, and LG, providing them favorable policies and financial support. In exchange, these chaebols became engines of growth, innovation, and export-led development. This state-guided capitalism emphasized education, technological advancement, and high rates of savings and investment. Today, South Korea has liberalized many aspects of its economy. Still, the state plays a vital role in economic planning and development, focusing on fostering the next generation of high-tech industries.

## **India**

India's version of directed capitalism has evolved significantly since its independence. Initially, the government adopted a mixed economy with a substantial role for the public sector, indicative planning, and import substitution industrialization designed to protect and promote domestic

industries. This approach was followed by the “License Raj,” which imposed heavy regulations and central planning but often led to inefficiency and slow economic growth.

Since economic reforms in the 1990s, India has moved towards liberalization and integration into the global economy. However, the state retains a significant influence through public sector undertakings in critical sectors and has a decisive role in regulation and planning. The government aims to direct economic activity towards inclusive growth and infrastructure development and foster strategic industries such as information technology and pharmaceuticals. India’s directed capitalism is marked by an interplay of democratic politics, regional interests, and reform imperatives, which can drive and hinder economic change.

### **Standard Features and Challenges of Directed Capitalism**

Directed capitalism in these countries shares the common feature of the state exerting notable control to shape the direction and pace of economic development, particularly over sectors deemed essential for national security or financial independence. In theory, this model allows for planned coordination of resources between the state and the market system towards growth and development in line with national goals. Additionally, it involves the cultivation (or state favoritism) of national champions, which are businesses selected to receive state support to compete internationally. State-induced modernization is another characteristic of these systems, through which countries pursue aggressive modernization and infrastructure programs with the state’s financial backing and involvement in planning.

Challenges in this model include state inefficiency, corruption, reduced competition, and a potential for misallocation of resources. There is also the issue of balancing state control with markets to avoid stifling entrepreneurship. As the global landscape evolves with technological advancements, countries practicing directed capitalism continue to adapt. The balance between state direction and market mechanisms and the pursuit of social and environmental sustainability remains a dynamic and evolving aspect of their economic systems. Several microelements might more directly negatively impact employee cognitive overload.

#### ***Top-down hierarchical structures***

Directed capitalist economies tend to favor hierarchical organizational structures, which can create a top-down approach to management. Aside from perceptions of micro-management, this can limit the flow of information and reduce autonomy among employees, leading to decreased job satisfaction and increased stress. The cognitive load is compounded when workers must navigate complex hierarchies to make decisions or propose innovations, which together are mentally exhausting and demotivating.

### ***High-pressure work environments***

In the directed capitalist systems of South Korea and China particularly, there is a cultural emphasis on hard work and long hours, often referred to in South Korea as *ppali-ppali* culture, meaning *hurry-hurry*. This can lead to stressful work environments with high expectations for productivity, long working hours, and minimal downtime, all contributing to cognitive fatigue. Employees may face relentless pressure to perform without sufficient mental rest, leading to burnout and decreased cognitive functioning.

### ***Rapid change and adaptation***

The economies of China and India, in particular, are known for rapid growth and change. Although dynamic and adaptable industries can drive economic success, they can also lead to constantly shifting work expectations and the need for continuous learning and adaptation on the part of employees. The cognitive load associated with keeping up with new technologies, processes, and market demands can be considerable. This state of flux, coupled with the inflexibility of micro-management, requires workers to maintain high levels of cognitive engagement and flexibility, which can be challenging over long periods.

In summary, directed capitalism, as practiced in China, South Korea, and India, demonstrates the varying degrees of state intervention in shaping market outcomes to achieve national development objectives. Each country has tailored this model to fit its unique historical, political, and social context, with different economic performance and social development implications. Associated factors can result in a work environment that places a heavy cognitive load on employees, impacting their mental health and well-being. It is worth noting, though, that these countries are undergoing continuous evolution in their work practices, and there is growing recognition of the need to address the cognitive and psychological demands placed on workers.

### **Boost the Best, Curb the Rest**

If we consider capitalism as described in *The Jungle*, *The Road to Wigan Pier*, and in the works of Marx and Engels as a baseline, capitalism then and now could hardly be called by the same name, as the system has undergone significant reforms. *The Jungle* exposed the harsh realities of the early 20th-century workplace in the U.S., such as poor working conditions, lack of worker's rights, and the absence of safety regulations.

It depicted a system with little regulatory oversight where workers were exploited for the profit of industrialists. Similarly, George Orwell's *The Road to Wigan Pier* depicted the life of the working class in England during the 1930s, providing a grim account of the poverty, poor living conditions, and general despair faced by coal miners, influenced by the economic downturn

of the interwar period. In Germany, Marx and Engels criticized the capitalist systems of the 19th century in their writings, pointing out the exploitation of the proletariat by the bourgeoisie, the alienation of workers from their labor, and inevitable class struggles resulting from the capitalist mode of production. Though some of these criticisms remain relevant, especially regarding income inequality and corporate influence, modern capitalism includes more elements of social welfare and mixed economies that involve both market and coordinated, if not planned, economic components. Today, there are more robust legal frameworks to protect workers' rights and increased public awareness about the need for the system to be more equitable and just. In the U.S., significant strides have been made, resulting in greater oversight and regulation with labor laws, safety occupational standards, and food and safety regulations. Likewise, in the U.K., there are more stringent health and safety laws, minimum wage, and worker's rights protections. Thus, while some core tenets of capitalism, as described in those works, remain, such as the pursuit of profit and market competition, the system has undergone significant reform. History, societal values, and a continuous push for social and economic reforms have shaped its evolution.

These shifts demonstrate that capitalism adapts to the times. In that change process, several features have emerged that enable us to classify different models as liberal, coordinated, and directed capitalism. As we did earlier in this chapter, some differences should be considered, but these are not insurmountable and could be fruitfully juxtaposed. Combining and boosting the strengths of liberal, coordinated, and directed capitalism while mitigating the negatives could lead to an optimized economic system that reduces employee cognitive overload. Below, we describe how that might be achieved.

From liberal capitalism, several "bests" to boost include encouragement of innovation, entrepreneurial spirit, and individual autonomy, which can create a dynamic work environment where employees are motivated by a sense of personal achievement and contribution to innovation. Some of the rest to curb might be excessive work hours, exhaustion, and the erosion of work-life balance. Adopting policies that encourage reasonable work hours and ensuring that workers have ample time for rest and recovery can help prevent employee cognitive overload.<sup>11</sup>

From coordinated capitalism, boosting the best would include keeping the strong social safety nets and worker protections. An emphasis on work-life balance found in coordinated capitalism can also significantly reduce employee stress and mental burden. In terms of curbing the rest, this would involve streamlining the complexity of regulations and the potential for slow decision-making processes to reduce unnecessary bureaucratic burdens and cognitive load on employees.

From directed capitalism, bests to boot include emphasizing strategic direction and planning inherent in directed capitalism. This can provide clarity of purpose and security for employees, which can be cognitively

reassuring. In terms of curbing the rest, this model's high-pressure work environments and rigid hierarchical structures would need to be reformed to foster a more supportive and empowering workplace culture.

### **Juxtaposed Approach of Balancing Achievement and Support**

Adopting the innovation-driven ethos of liberal capitalism while ensuring the support of directed capitalism and the worker protections of coordinated capitalism could create a balanced work ethic that stimulates economic growth without overwhelming employees. The innovation-driven spirit of liberal capitalism fosters creativity, entrepreneurial risk-taking, and individual initiative. This environment encourages employees to develop new ideas, processes, and products, contributing to economic dynamism and personal fulfillment. However, without some checks and balances, such a climate can precipitate stress and overwork, as the pursuit of innovation is often coupled with demanding expectations and a relentless pace.

To temper this, the directed capitalism model offers an interesting dimension, where state guidance and support provide a more predictable and stable economic landscape. Such direction can help align individual and corporate innovation efforts with broader national economic goals and provide support in areas where the market alone may not venture. This strategic support can alleviate some of the uncertainty and risk typically shouldered by individuals in more liberal systems, potentially reducing cognitive strain associated with economic volatility and insecurity. Simultaneously, worker protections and social welfare provisions of coordinated capitalism offers a framework for the workforce to operate with greater security and support.

These protections, such as healthcare systems, comprehensive unemployment insurance, and authentic worker representation in decision-making, can mitigate the cognitive load associated with health concerns, job loss, and workplace disputes. Furthermore, coordinated capitalism's emphasis on social dialogue and labor's participation in decision-making can lead to workplaces that value productivity and employees' physical and psychological health.

In crafting a balanced work ethic environment, it is critical to integrate these elements into a coherent system. For example, innovation should be encouraged but not at the expense of worker health and psychological well-being. Strategic state involvement should aim to stabilize and steer economic development yet allow enough flexibility for companies and individuals to adapt and innovate. The worker protections of coordinated capitalism should ensure that the labor force remains resilient, capable, and supported but not complacent and rigid to innovation.

Such a balanced approach requires careful policy design and a commitment to continual adjustment in response to economic changes and workforce needs. The goal is to establish a dynamic equilibrium where innovation

thrives, but not by sacrificing the cognitive and psychological health of the workforce. It is about cultivating an environment where the engines of growth are fueled by a well-supported, secure, and psychologically agile labor force.

### **Public Leadership as a Conduit to Alignment**

Public leadership is irreplicable in change and alignment. Public leadership would need to play a crucial role in orchestrating the juxtaposition of the different elements of liberal, coordinated, and directed capitalism to reduce employee cognitive overload. Public leaders would need to understand the complex array of political ideologies, economic systems, labor market, cultural dynamics, and social concerns while navigating and balancing these pros and cons to foster conditions toward sustainable work environments. Below, we provide an explanation of how public leadership could help harmonize social and work contexts.

### ***Visionary Planning and Strategic Goal-Setting***

Public leaders must have a vision that encapsulates the multifaceted nature of a modern economy. They are tasked to integrate the innovation and flexibility of liberal capitalism, the strategic direction of directed capitalism, and the social safety nets of coordinated capitalism. This requires an understanding of economic principles, a care for the workforce, and foresight to anticipate changing political and economic landscape needs. Strategic goal setting involves setting long-term goals that align economic aims with the welfare of the workforce. Leaders must identify the sectors poised for growth and the skills required, ensuring that innovation is supported but not at the expense of the workforce's mental health. They must direct investments into these areas while fostering an employee-friendly labor market.

### ***Policy Formulation and Regulation***

In crafting policies that reflect a balanced work ethic, public leaders are responsible for developing regulatory frameworks that encourage entrepreneurship and innovation while protecting employees against the cognitive strains of modern work. This entails not only the creation of labor laws that protect workers' rights and well-being but also the implementation of educational and training programs that prepare the workforce to thrive in a dynamic economic environment. Regulations that promote fair competition, protect intellectual property rights, and prevent exploitation are fundamental in liberal capitalist societies. In coordinated capitalism, public leaders must ensure that labor laws facilitate meaningful dialogue between employers and employees and provide adequate work

–life balance. In directed capitalist economies, leaders need to balance state involvement in strategic industries with the need for those industries to innovate and compete on a global scale.

### ***Promotion of Social Dialogue and Consensus-Building***

In juxtaposing these economic models, public leadership involves promoting social dialogue among various stakeholders, including businesses, labor unions, non-profits, and government agencies. Leaders must foster a culture of consensus-building, ensuring that policies are effective and enjoy broad support. This dialogue is crucial in creating an environment where the benefits of economic growth are widely shared. Public leaders work to build trust among workers, employers, and policymakers, ensuring that the social contract is upheld and that the economic system remains responsive to the needs of all members of society.

### ***Encouraging Innovation within a Supportive Framework***

To cultivate innovation, public leaders must create an environment that rewards creativity and risk-taking while providing a safety net for those disadvantaged by economic transitions. This involves supporting entrepreneurship through access to capital, business incubation programs, and a legal framework that enables startups to flourish. At the same time, leaders must ensure that this drive for innovation does not lead to worker burnout. This may involve legislating maximum work hours, encouraging companies to recognize the signs of cognitive overload, and promoting a culture where taking mental health days is as accepted as taking days off for physical health.

### ***Adapting to Technological Change and Globalization***

Public leaders must navigate the challenges posed by rapid technological change and globalization. They must proactively understand how these forces can lead to cognitive overload among workers and adjust policies accordingly. This might involve investing in lifelong learning and reskilling initiatives to help workers adapt to new technologies and shifts in the labor market. In the face of globalization, leaders should consider maintaining a competitive edge while protecting workers from the pressures of an interconnected world. This would include policies that promote fair trade and responsible business practices, domestically and globally.

### ***Toning Down the Rhetoric***

Finally, toning down ideology rhetoric might help with the consideration and alignment of some of these suggestions. That is, labels matter little,



aside from ideologues, and whether we call the Chinese system-directed capitalism or market socialism is only relevant to politicians, not necessarily people trying to live, work, and cooperate globally. The primary focus should be on the following question: what is likely to work, going forward? Maybe we can call different approaches to capitalism, especially an adaptive one we propose, simply the economic system in the U.S., China, etc. Value-laden labels (e.g., American capitalism, Soviet communism) prime stories from the past and emotions associated with them, which is probably not necessary anymore.

Public leadership is indispensable in balancing positive aspects of liberal, coordinated, and directed capitalism to minimize employee cognitive overload. Leaders must be visionary and strategic goal-setters, skilled policy-makers, consensus-builders, innovation champions, and change navigators. They must be both responsive and responsible, ensuring that the economic system supports both the economy's health and the workforce's cognitive well-being. The undertaking is complex and requires a nuanced approach that recognizes the interdependence of economic vitality and human welfare.

## Conclusion

In the quest for a sustainable workplace for humans, it is apparent that no single form of capitalism holds all the answers to the challenges of modern work life. The strengths of each form of capitalism – liberal, coordinated, and directed – can inform a composite model that prioritizes human sustainability at work. The synthesis of these models suggests a path forward where the dynamism of the market, the stability of coordination, and the strategic focus of state direction converge to create an environment conducive to both productivity and well-being.

As we reimagine the future of work and working, we should recognize that economic system must be as dynamic and adaptable as the individuals within it. While liberal capitalism champions innovation and a free market's ability to self-regulate, the challenges of excessive work hours, job insecurity, and the erosion of work–life balance prevalent in liberal capitalism call for a recalibrated approach. Coordinated capitalism, with its strong social safety nets and active labor market policies, offers a counterbalance to protect against these excesses. Yet, the risk aversion and resistance to change often associated with this model must be navigated carefully to prevent stagnation. Directed capitalism's blend of state involvement and market mechanisms offers lessons in strategic economic planning and development but also needs to evolve to accommodate the fast pace of technological change and the need for innovation.

Incorporating the best elements from each system requires public leadership that is as forward-thinking as it is grounded in the present realities. Leaders must champion policies that foster adaptability and mental agility

within the workforce. By embracing the virtues of each model and mitigating their shortcomings, we can stride toward a future where work not only demands our time and effort but also respects our humanity and cognitive health. Doing so could usher in an era where the market's invisible hand is guided by a more visible heart – one that beats to the rhythm of societal well-being and individual economic and psychological fulfillment.

### Discussion Questions

- How do the principles of liberal capitalism align with the modern workforce's expectations, particularly regarding innovation and individual autonomy?
- In what ways might the strong social safety nets of coordinated capitalism support or hinder a dynamic economy?
- Discuss the benefits and drawbacks of the high levels of state involvement seen in directed capitalism. How can this impact the global competitiveness of a nation's industries? What are some consequences for human sustainability at work?
- How can public leadership balance the need for economic growth with the cognitive well-being of the workforce in today's rapidly changing technological landscape?
- Can the principles of *flexicurity* from the Scandinavian model be effectively implemented in the liberal capitalist economies of the United States?
- What are the challenges of integrating elements from different capitalist models into a cohesive economic system that values efficiency and human sustainability?
- Reflect on the statement, "The market's invisible hand should be guided by a more visible heart." What does this mean to you in the context of psychological well-being?

### Exercises

- Role-Playing Exercise: Break into groups, and each person takes on the role of a different economic system (liberal, coordinated, directed). Role-play a scenario with a crisis, such as an economic downturn, and discuss how your system would manage the situation. Engage in negotiation to see if a solution emerges from common ground among the systems.
- Policy Design Workshop: Individually or in small groups, design a policy that combines the best elements of liberal, coordinated, and directed capitalism to address a specific workplace issue, such as job insecurity or work–life imbalance.

- Debate: Debate this statement: “Coordinated capitalism is more suited to the modern world than liberal capitalism.” Argue for or against it, supporting your reasoning.

## Notes

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# 7

## MODIFY ORGANIZATIONAL LEADERSHIP

### Ethics of Care and Female Leadership Advantage

In this chapter, we shift our focus from macro-level comparative analysis of economic systems to human dynamics characterized by leadership. We delve into an emergent leadership ethos, Ethics of Care Leadership (ECL), which could effectively address the pervasive issue of cognitive overload among employees in the public and private sectors. ECL, which finds its roots in moral psychology, is defined as a conceptual framework in which care toward others is not only a moral value but is instrumental to living in social harmony, and leadership represents behaviors of attentiveness toward others, responsiveness to their needs, and cultivating interpersonal relationships.<sup>1</sup> We explain why women are more likely to embrace ECL than men and ground this in the literature on a female leadership advantage (FLA).

In the subsequent sections, we describe the moral philosophy underpinning the ethics of care, followed by a discussion of our proposition that women, compared with men, are more likely to embrace ECL. Finally, we delve into the operationalization of ECL in public institutions (public ECL) and organizations (organizational ECL), coupled with vivid examples, with the overarching purpose of making the case that ECL can ameliorate cognitive overload. Though we canvas a broad range of knowledge across social science disciplines, the social cognitive theory (SCT) perspective guides this analysis.<sup>2</sup> SCT stresses leaders as role models of behavior within the ongoing and reciprocal social-learning process and not as a result of male or female gender-ingrained immutable dispositions, suggesting most leaders could embrace ECL.

Ethics of care is a stream of moral philosophy developed in response to traditional moral theories that often overlooked the feminist critiques of them as being too narrow in their focus on fairness. Ethics of care puts

caring at the center of human survival, as infants and children entirely depend on others to care for them, whether that is mothers, fathers, or both, though mothers do most caring in practice.<sup>3</sup> In addition, caring for others is instrumental for adaptive social existence. In the latter sense, caring includes what we do as humans to maintain, continue, and repair our relationships to live in a world of relative social harmony.<sup>4</sup> This extends to care for broader societal and environmental pressing concerns.

Ethics of care highlights that women, historically and culturally, have been associated more closely with care than men because of their gendered socialization. For this reason, research suggests that women are more likely than men to view care as a moral imperative and to engage in caring practices. This differential association by gender raises questions about the moral value society places on care. For example, in his book *Quandaries and Virtues: Against Reductivism in Ethics*, Pincoffs lists 221 personal virtues, but care is missing.<sup>5</sup> Similarly, in *Dependent Rational Animals: Why Human Beings Need the Virtues*, MacIntyre recognizes human dependency on others but fails to acknowledge care as a moral virtue.<sup>6</sup> Feminist philosophers argued for the consideration of care as an ontological virtue and pushed for its inclusion in today's epistemology of moral theories, known as ethics of care.<sup>7</sup>

An ethics of care framework enables women to discern better their voices and contributions in creating a caring society across domains of activity. It challenges us to reconsider our moral priorities and recognize care's essential significance in shaping a sustainable world and workplace. The recently introduced concept of ECL is particularly relevant for enabling human sustainability in the workplace.<sup>8</sup>

## Ethics of Care Leadership

For decades, the study of gender and leadership has been predicated on role incongruity theory, such that women leaders are assessed on their ability to balance traditionally masculine leadership requirements with social role expectations.<sup>9</sup> Leadership has historically been associated with masculine qualities, such as acting with agency, which involves authority, self-assurance, and decisiveness. In contrast, women are stereotypically linked to communality, behaviors more related to ethics of care, characterized by connection, cooperation, and support. Research by Schein and colleagues in the 1990s surveyed thousands of study participants and had them rate attributes of effective management and indicate whether these qualities were masculine or feminine. Results revealed that qualities attributed to successful managers were predominantly viewed as masculine, leading to the moniker of "think manager-think male."<sup>10</sup> This, backhandedly, endorsed a warm but incompetent stereotype of women to justify their domestic roles and, thus, exclusion from the workplace. By extension, "think manager-think male" also

created a stereotype of working women as competent but cold. It was used to justify keeping them out of male-dominated top management positions. Hence, the contradiction between professional roles and social norms for women partly explained the exclusion of women from leadership; their value placed on care and communality was seen as incongruent with a perceived need for agentic leaders.

Reviews of this literature over decades kept asking, “Has anything changed,”<sup>11</sup> “Have times changed,”<sup>12</sup> and whether “the honest broker stands a chance”<sup>13</sup> with these rutted social views. Perceptions of feminine leadership styles characterized by communality being a misfit with leadership ideals may be changing. Burgeoning evidence suggests that successful leadership in contemporary organizations necessitates communality, underscoring the importance of an ethics of care as part of a leadership approach.<sup>14</sup> ECL is not a mere attitude, such as “I do not care for this or that,” nor is it just a warm feeling toward people. Practicing ECL involves an expenditure of physical and mental energy – leading through actions aimed toward building and sustaining the well-being of relationships and those in the relationship.<sup>15</sup>

To clarify, this does not always include caring for all of humanity. Instead, it is caring for those in a particular personal, social, or professional relationship can comprise any number of people, including a larger community. For this reason, the interests of those caring and those cared for are interwoven rather than independent or competing, and caring is voluntary rather than contractual. This framework rejects the view that caring is simply a biological survival necessity that someone has to do and, hence, not a moral virtue. In contrast, we view care as a moral value and acts of care as potentially transformative because they help people (re)gain the capacity to live in mutually beneficial relations with others at work or elsewhere.

Given these foundations, ECL is attuned to the psychological landscape of the workforce, advocating for a human-centric leadership framework based on valuing care while also being mindful of economic necessities. With its synthesis of both care and pragmatic business acumen, we argue that ECL can alleviate some of the burden of cognitive overload that plagues today’s workers. Caring for employees is not merely a moral imperative but is also postulated to be a sharpening agent for an organization’s collective competitive edge across domains of activity.

## **Gender Distribution in Valuing Care**

Moral psychology has often emphasized values such as autonomy, self-reliance, and fairness in safeguarding individual liberties and property. These values have traditionally found greater resonance with men, perhaps owing to both their social conditioning and historical gender roles. This emphasis can inadvertently marginalize the moral values of connectedness, communal responsibility, and proactive engagement in the welfare of others – values

that are critical underpinnings of a caring society and are often more closely associated with women. These gendered perceptions of value are not merely abstract philosophical points but have tangible implications for the practice of ECL. Women, on average, are more inclined to prioritize care over economic or individualistic gains. This is not to say that financial concerns are unimportant to women, but rather that their approach to leadership and decision-making frequently incorporates a broader consideration of communal care and relational dynamics. Men, though capable of valuing and practicing care, often engage with it differently, more often than not subordinating it to business goals and more self-centered perspectives than care for others.

Gendered differences in valuing care can lead to profoundly different outcomes in the workplace. ECL fosters inclusion, which contributes to more equitable organizations and society. It is unclear how self-centered focus on economic objectives, though valuable, builds community life.

### ***Differences as a result of socialization***

As they have engaged in socialized, traditional roles of breadwinner and homemaker, each gender was associated with qualities needed for each role and language. For example, research suggests women use more communal speech and reference social and emotional words more than men, who focus more on attaining external goals. Specifically, words such as affectionate, committed, communal, compassionate, connected, considerate, cooperative, empathetic, gentle, honest, kind, nurturing, pleasant, polite, responsive, sensitive, supportive, sympathetic, and warm are deemed feminine. Words such as active, adventurous, aggressive, analytical, assertive, challenge, decisive, competition, confidence, dominance, greed, impulsive, individual, outspoken, and reckless are deemed more masculine.<sup>16</sup> Moreover, using words also created differences in the appeal of jobs and job ads, as using more masculine words tends to be more appealing to men and vice versa. In this framework, all these differences are socialized and, thus, interchangeable between genders.

According to social cognitive theory, leadership behaviors are outcomes of a social learning process and reciprocal determinism.<sup>17</sup> SCT asserts that behavioral acquisition is a dynamic process shaped by the interplay of personal factors, the environment, and the outcomes of past behaviors, suggesting that neither ECL nor any other leadership style is inherently feminine or masculine. Consider the prototypical image of leadership from the past. It was an archetype epitomized by figures that mirrored the heroes of old Western films – the stoic, solitary figures embarking on ventures where independence was paramount. Envision a leader cast from this mold, a silhouette against the backdrop of the frontier, embodying the essence of rugged individualism. This leader, astride a horse, would be seen as tackling the wilderness solo, symbolic of the ‘lone ranger’ trope, while the family remains on the porch, bewildered.

This figure, in contrast to the communal ethos of ECL, is often depicted as venturing into the unknown, facing the elements of nature, and overcoming adversities without a hint of the need for companionship. However, our understanding and expectations of leadership have evolved to include the collaborative and nurturing approach associated with ECL. It has expanded to embrace care-based qualities that are reshaping the leadership landscape in contemporary organizations, helping to refocus the world on human sustainability at work.

### ***Differences arising from biology***

This view posits that women, by virtue of their unique biological capacity for childbirth and the consequent necessity of nurturing infants, might have innate tendencies toward care and caregiving that extend beyond the mere physical act of bearing children. Without a biological predisposition for caring, the future of humanity could have been at risk, as little children are primarily net-takers in just about every material/financial/resource needing aspect of life. Said differently, without motherhood, there are no humans on this Planet. The determinism of this postulate aligns theoretically with Carl Jung's premise of the evolutionary fast-forward of fundamental social archetypes. That is, could the ideal of "motherhood" be fed-forward by evolution as necessary for the *sustained* care for others? In this framework, caring is biologically based and evolutionarily promulgated to restrict humans (men?) from tinkering with it. For example, in Greek mythology, Kronos ate baby Zeus, and Rhea, his mother, saved him. That is to say, if caring for others is left to men, it is unclear how many others would make it.

### **Implications of Gender Distribution in Valuing Care for ELC**

Whether socialization or biology drives gendered differences in the value of care is still unclear. However, literature is fairly ubiquitous that this gendered difference exists, and recent research shows that it has implications for how women and men lead.<sup>18</sup>

In particular, women tend to foster more meaningful and productive social interactions. While adherence to rules provides a necessary foundation for women, it is the cultivation of relationships that propels the team forward. Women's tendency to embrace a more relational approach is evident in how they immerse themselves in their communities, prioritizing volunteerism and activism as central tenets of their involvement. Women have been shown to have a heightened sensitivity and a keen attunement to diversity within their teams, making them more alert to moments of difference. They tend to take on more responsibility for engaging with and bridging these differences toward an inclusive work environment.

Women's receptiveness to diverse perspectives enables them as leaders to assimilate insights from a broad array of stakeholders, facilitating an



expansive and integrative learning process. This collaborative style allows them to adjust their strategies to encompass inclusion and community building, focusing on pooling knowledge and skills and reaching decisions that draw from a richer and more varied source of information and experiences. The cumulative effect of these qualities coalesces into a collective ethos of “we are in this together.” This is underpinned by a core value succinctly expressed as “because we care.” It is this ethos of care that facilitates collaboration and partnership. When women leaders embody an ECL approach, they create platforms for collective action that are both resilient and adaptive, fostering a sense of unity and shared purpose that transcends individual interests in favor of the common good.

Women’s embodiment of ECL has manifested across various sectors and contexts, demonstrating a propensity for achieving effective outcomes through a distinctive approach to leadership. Below is a distillation of how women have embraced ECL in different arenas.

### ***Public leadership***

Women leaders in the public sector have taken up causes that require a communal approach, such as opposing toxic waste storage near homes, supporting city youth, and advocating for affordable housing. These issues demand public consensus rather than authority-based command, and women’s tendency to engage in public discourse has been effective where traditional hierarchies might not have been. For example, Jacinda Ardern, New Zealand’s former Prime Minister, has been recognized for her focus on issues that require community consensus and engagement. She has addressed national concerns with an emphasis on unity and collective well-being, demonstrating a commitment to causes such as environmental protection and sustainable practices. Her policies also illuminate her focus on care for more vulnerable populations, with an effort to improve education and mental health services. She also worked on increasing the supply of affordable housing with initiatives like the *KiwiBuild* program, which makes homes more accessible to first-time home buyers and those with lower incomes. Ms. Ardern connects with the community openly and directly, utilizing social media to foster dialogue and participation. Overall, her approach exemplifies how women in the public sector can leverage ECL to effectively address and manage communal challenges, emphasizing the power of voluntary collaboration over traditional hierarchical power dynamics.

Beyond anecdotal evidence, our research has highlighted the prominence of public women’s leadership effectiveness, especially during crises such as the COVID-19 pandemic, urban revitalization, and social justice protests. During the COVID-19 crisis, we found that states led by women governors in the United States experienced fewer deaths, especially when these leaders implemented early stay-at-home orders.<sup>19</sup> We analyzed hundreds of governors’ briefings to assess differences in leadership style. We found that female

governors conveyed more empathy and confidence, suggesting that these qualities may have contributed to more effective crisis management. This supports the idea that an approach centered on care resonates strongly with the public, especially when public health is at risk. Similarly, we examined the effectiveness of city mayors and the economic health of their cities using data spanning nearly four decades. We found that female mayors were more likely to embrace ECL, as manifested by a greater emphasis on achieving better measures of racial inclusion; this emphasis on inclusion, in turn, promotes better economic health in the cities.<sup>20</sup> This indicates that women's leadership styles, grounded in the principles of ECL, are effective in addressing both social and financial issues.

We also analyzed the leadership effectiveness of city police chiefs during the social unrest of Summer 2020, which was catalyzed by the Black Lives Matter (BLM) protests. We found that women, and in particular Black women, as a result of their unique social experiences, demonstrate a leadership style that is acutely sensitive to racial injustice, risk-inclined, and community-committed. Such attributes, we argued, enabled them to be especially effective in mitigating violence on the streets during the BLM protests. The interaction between gender and race in relation to violence in that study underscores the potential of diversity in leadership to yield positive outcomes in high-stakes situations.<sup>21</sup> Our most recent study focuses on leaders of nonprofit organizations called Continuums of Care that share the mission to end homelessness in the United States. Here, we find that women leaders, when they embody both communality and positive aspects of agency – competence, diligence, independence – achieve the most effective outcomes, i.e., were associated with the least homelessness. This underscores that public leadership embodying ELC goes beyond public officials and is also effective in the nonprofit sector, where organizations strive to make a meaningful social impact.<sup>22</sup>

Taken together, these studies weave a coherent narrative that women's leadership, infused with ethics of care, is adept at navigating crises, promoting community well-being, and driving economic growth. The integration of communality and a commitment to inclusion, in addition to competence and diligence, not only addresses the immediate challenges but also paves the way for sustainable and equitable social and economic progress. This evidence supports the apparent efficacy of ECL in various contexts, affirming the value of female leadership in the public arena.

### ***Private sector leadership***

In private sector leadership, particularly within corporate governance, mounting evidence underscores the distinctive approach female CEOs and board members bring. This research highlights the priorities that female leaders tend to set and the tangible outcomes of their distinct leadership

styles. Female organizational leaders tend to champion inclusive decision-making practices, which has been linked to higher profitability.<sup>23</sup> Women's Leadership has also been associated with a greater likelihood of introducing innovative products and services, as inviting more diverse views can spur creativity and innovation.<sup>24</sup> Companies with higher levels of gender diversity in leadership also report better compliance with laws and regulations, reducing the incidence of lawsuits and controversies.<sup>25</sup> Moreover, female directors are more likely to hire and promote other women into senior roles, promoting gender equity in top leadership roles.<sup>26</sup> Women leaders are also more likely to advocate for employee-friendly policies and programs, contributing to a more positive workplace culture and reducing legal disputes.<sup>27</sup>

Emerging research on corporate social responsibility (CSR) also suggests that firms with female CEOs or board members are associated with stronger CSR performance.<sup>28</sup> This reflects a broader tendency of women leaders to integrate CSR into business strategies, considering the ethical implications of corporate actions on stakeholders and the environment. Financial performance and risk management research also show that women tend to take a prudent approach. For instance, banks with higher shares of women board members have higher capital buffers, lower proportion of nonperforming loans, and greater resistance to financial stress. This suggests that female leaders may contribute to more stable and resilient economic performance.<sup>29</sup>

In summary, this work indicates that female leaders in the private sector tend to prioritize inclusion, equity, and social responsibility to a greater extent than their male counterparts. The impact of this leadership style is multifaceted, enhancing organizational resilience, innovation, ethical conduct, and job satisfaction. These findings contribute to a better understanding of how female leadership in the private sector shapes culture and drives tangible, positive outcomes for businesses and their stakeholders. Taken together, the embodiment of ECL by women leaders is characterized by a focus on communal needs, inclusive policymaking, and fostering environments where care and collaboration are valued. This approach, while differing from traditional power-driven leadership models, has shown to be effective in various settings.

### ***Cultural and historical examples***

There are examples of women embracing what looks like ECL in the broader culture. For instance, in *The Merchant of Venice*, Portia, Shakespeare's revered heroine, can be seen as an example of ECL. Her goal is to navigate the legal challenges to save Antonio, but her leadership is marked by care. Catherine the Great of Russia was a female leader who brought about significant cultural change and was known for her care for others. She exemplified ECL through the patronage of education, a rarity in Czarist Russia, and belief in the benefits of Enlightenment for all strata of the

society. In Erin Brockovich's eponymous movie (2000), a true-to-life character demonstrates ECL by fighting for a community affected by polluted water. Her unflinching care for others sustained her through a significant legal battle against a large corporation, which she ultimately won. A similar advocacy is found with Former First Lady of the United States, Eleanor Roosevelt, whose leadership in drafting the Universal Declaration of Human Rights showcased her commitment to caring for the well-being of all.

Cultural and historical examples of ECL are not confined to women. In *To Kill a Mockingbird*, Atticus Finch (an example of a male ECL) teaches his children to care for others regardless of prevailing social prejudices. These characters reflect the ideals proposed by ECL by balancing care and moral considerations with effective governance and decision-making. Gandhi also embodied the ECL principles. His leadership, through deep care for others, profoundly impacted India's struggle for independence and influenced leaders worldwide. Similarly, as South Africa's first black president and an anti-apartheid revolutionary, Nelson Mandela's leadership was characterized by a deep for and a commitment to each other, operationalized in reconciliation attempts. The fourth king of the Joseon dynasty of Korea, Sejong, is renowned for his care for his populous, which is evident in his creation of the Korean alphabet, Hangul, which was designed to be easy to learn, enabling "commoners" to become literate. In India, after witnessing the suffering caused by his military campaigns, Ashoka, the ancient Indian emperor of the Maurya Dynasty, converted to Buddhism and led with a focus on non-violence and care for his people. Together with the women who embodied the ECL described above, these examples underscore the ostensibly timeless/universal relevance of caring for others and leadership based on it, as well as the potential to inspire individual and social change.

## Embracing ECL for Human Sustainability at Work

A shift toward ECL reflects a broader recognition of the need for workplaces to prioritize human sustainability. This shift is not just a moral imperative but a strategic one, as sustainable workplaces drive engagement, innovation, and long-term organizational success. Leaders embracing ECL play a pivotal role in creating such environments. To better understand how leaders can embody ECL, in a recent study, we analyzed about 12,800 research articles on communality and leadership effectiveness, eventually reducing this to 134 relevant articles. Across these articles, we cataloged the different ways communality was defined and measured, encompassing 704 different approaches to communal leadership. We performed structural topic modeling to identify if there were common themes underlying these measures. This statistical tool calculates the probable importance of a word, given the entire text, to infer common dimensions rather than performing a subjective evaluation. The structural topic modeling revealed six components of a communal leadership

style: care, empathy, support, inclusivity, empowerment, and diplomacy.<sup>30</sup> Below, we describe each and suggest strategies that leaders can focus on to practically foster human sustainability at work.

**Care.** As discussed throughout this chapter, care in a leader is reflected in both social interactions and professional conduct. Caring leaders are aware and sensitive to others' needs. They genuinely listen, taking pride in mentoring their team members throughout their career journey. Caring leaders show respect for people at all levels. Because of it, they tend to connect with people on a deeper level, often blurring the line between colleague and friend, reaping the benefits of strong interpersonal relationships. These leaders give frequent feedback, even in adverse situations, with a moral compass, aiming to uplift employees rather than tear them down. These leaders stand by their team and guide them through problems they encounter. One suggestion for modeling care as a leader is to advocate for greater awareness and promotion of mental health in an organization, given the bleak evidence presented on it in Chapter 4.

*Advocate for mental health.* Open and honest communication builds trust and reinforces the care aspect of ECL. Leaders should acknowledge the challenges of the modern workplace, reduce negative stigmas associated with mental health, and create a supportive work environment where mental health is recognized. Leaders can point employees to resources, such as counseling and stress management workshops, and provide supportive responses when employees communicate mental health issues. Normalizing conversations around mental health reduces stigma and supports well-being. Trends suggest that more people are becoming aware of the critical importance of maintaining mental health, as more than half of psychologists reported having no openings for new patients in 2023, according to the APA 2023 practitioner pulse survey. In normalizing conversations around mental health and providing resources, ECL would set the boundaries around employee working hours. Outlining the expectations for communication, such as not responding to e-mails outside of work hours, and *modeling that behavior* is critical for helping employees recover when away from work. However, encouraging employees to not respond to e-mails but then e-mailing them during off-hours will increase pressure and expectations of response, undermining the message that mental health recovery is a real priority.

**Empathy.** Empathy focuses on understanding one's feelings and those of others and acting accordingly. ECL embraces empathy and seeks to bring out the best in their team. They do this by communicating and engaging in active listening and self-reflection. They control their emotions and strive to maintain a positive organizational climate. ECL leaders focusing on empathy treat others well by showing care and consideration; they tend to be kind and polite. To drive success, they often seek input from others and reward

team members for their efforts and contributions. By embodying empathy and seeking to cultivate it in others, leaders can strive to create an organizational culture where empathy is valued. This starts at the top with leaders who actively listen to employees, seeking to understand their perspectives and acknowledge their concerns. Empathy can bond people together, and we suggest ECL focus on cultivating an empathetic culture by encouraging perspective shifting to imagine how others are affected.

*Cultivating an empathetic organizational climate.* Empathetic responses can be practiced by encouraging employees to focus on cues in the conversation or on impressions observed when interacting with others. Picking up on signals of emotion, both verbal and nonverbal, and changes in behavior enable us to mimic the other person and absorb their emotions and responses. This helps drive a tone of communication that tends to be more tactful and gentler. Whereas sympathy is an emotion, research suggests that empathy is a skill that can be learned.<sup>31</sup> Empathetic abilities enable leaders to show consideration for their employees, manifested by a friendly, supportive, and concerned approach to employee relations. By doing so, ECL leaders can develop policies and practices that address the well-being of workers.

**Support.** ECL leaders are supportive, embracing service to their team. When making decisions, ECLs who enact support take the time to explain the rationale behind their decisions; they refuse to give orders and do not expect things to be done without supportive discussion. They value consensus and consider the concerns of team members. When a team member faces a challenge, supportive ECLs make it known that they have their back, and when success is achieved, these leaders celebrate the group's accomplishments. One strategy that ECL can take to promote a supportive leadership style is to promote greater work-life balance.

*Promoting work-life balance.* Implementing flexible work arrangements can help employees manage their personal and professional responsibilities more effectively. Leaders can establish policies that allow for telecommuting, flexible hours, and time off, supporting employees' well-being and leading to increased productivity.<sup>32</sup> Neurological studies have shown that work-life imbalance increases the likelihood of cognitive decline – decreasing attention, concentration, learning, and remembering and increasing anxiety levels.<sup>33</sup> Meta-analyses further support a link between flexible work arrangements and better physical health, reduced absenteeism, and fewer somatic symptoms.<sup>34</sup> In the U.S., Gallop polls suggest that women and millennials, particularly, are looking for jobs with flexible policies because of their value on work-life balance.<sup>35</sup> Though some jobs preclude work flexibility, e.g., trucking or manufacturing, flexible arrangements could be considered in many professions.

**Diplomacy.** Diplomatic leaders are recognized for tactful communication. They appreciate the diverse qualities and knowledge each team member

brings and recognize the potential contributions of others to the conversation. Instead of being harsh critics, making undue demands, or using authority-based commands, they communicate their expectations, treat everyone's contribution with dignity, and try to connect on a personal level. Given their focus on meeting individual needs and solving organizational problems through diplomacy, one strategy for ECL leaders to engage in a diplomatic approach is, to invest in employee development.

*Investing in employee development.* This might include offering professional growth opportunities like training programs, workshops, and mentorship. Such investments can help employees feel valued and contribute to a culture of continuous learning and empowerment toward the diplomatic problem-solving approach. However, trends suggest employers are less willing to invest in people. Employees are expected to take on more responsibility for enhancing their skills and adding new ones to meet job demands, especially given the increased availability of online training tools, along with the development of company-specific social media, such as Hilton's "The Lobby," where employees are encouraged to share best practices and use resources to locate the information they need.<sup>36</sup> The implication is that learning is encouraged and supported, but employees are expected to take the initiative and find opportunities to size the role of a life-long learner, in addition to meeting their daily job demands. While perhaps well intended, this life-long learning approach has increased overall cognitive load. Though the future of employee development is likely going to remain a shared responsibility between employers and employees, leaders can embody ECL by showing tactful individualized consideration, getting to know their people, and connecting them with the right opportunities to advance their knowledge and skills, which in turn, can enhance their well-being.

**Inclusivity.** Before making decisions, inclusive ECLs talk to team members, encouraging cooperation to harness everyone's unique talents. These leaders avoid favoritism and seek to help others overcome barriers. They try to create an environment where team members, regardless of their function or background, feel they can contribute to the team's shared goal. These leaders tend to be attentive and inviting of others' perspectives, recognizing that an inclusive approach benefits the team and has a broader impact on the organization's success. One strategy for fostering inclusive ECL leadership is encouraging team diversity.

*Encouraging inclusivity and diversity.* An inclusive workplace is vital to human sustainability. Leaders should work to eliminate biases, promote diversity, and create an environment where all employees feel welcomed and valued. This includes not only diversity in demographics but also in thoughts, perspectives, and experiences. This can be achieved through diversity and inclusion training, mentorship programs, equitable promotion paths that allow diverse talent to flourish, and focusing on diversity in hiring. Research suggests that job seekers respond more positively to recruitment

messages indicating the company values diversity.<sup>37</sup> Research on diversity training programs underscores the importance of aligning the critical points from the training with practices that are implemented in organizations. In addition, other characteristics of diversity training, such as context or framing, influence its effectiveness.<sup>38</sup> Mentoring programs have become a form of career development to facilitate equal opportunity for advancement.<sup>39</sup> However, a challenge that can reduce the likelihood of success includes similarity-attraction tendency, where look-alike mentors are selected. Thus, leaders should be mindful of diversity in mentoring networks for effective diversity mentoring.

**Empowerment.** Empowering leaders strive to empower those around them. Rather than taking (undue) credit, they emphasize the work of others on their team by complimenting and reinforcing their contributions. Empowerment also entails leading by example and demonstrating conduct for others to follow. These leaders avoid micromanagement, but they maintain clear lines of communication. Through their actions, they underscore that the best results are possible when individuals are given equal access to the tools they need to develop their full potential. To embody care manifested as empowerment, leaders can model ECL behaviors themselves.

*Model ECL behaviors.* To foster human sustainability at work, leaders should model ECL behaviors and reinforce those who demonstrate these behaviors in the organization. This sets a modeling standard for how interactions and decisions should be guided by care for others. Longitudinal studies of leadership behavior and subordinate well-being have shown a link between leaders' behavior and the subsequent well-being of their teams. This is because the social context at work is a consistent predictor of individual well-being, and leaders directly impact how their employees feel about themselves and their work. When supervisors displayed behaviors characterized by the ECL framework, the well-being of their teams was enhanced.<sup>40</sup> One caution with empowerment is that it comes with potential side-effects of added responsibilities, which can increase role ambiguity and cognitive load. Studies suggest empowerment can be "too much of a good thing," finding that over time, being empowered by a leader can result in perceived work overload and emotional exhaustion.<sup>41</sup>

## Conclusion

Real leadership, as opposed to the cottage industry's macho stories of individuals facing the elements alone, involves numerous acts of caring for others. There is a paradigm shift from traditional leadership archetypes of lone rangers toward a more nurturing, inclusive, sustainable model. When in crisis, employees often feel emotionally overwhelmed and uncertain about how to move forward. ECL helps alleviate psychological exhaustion and



offers a path out. Leaders who prioritize the care of their group weave the interests of those caring and those cared for rather than viewing them as separate or competing. They recognize that caring for others can be transformative because it helps people live in harmonious relations, enabling them to be productive. ECL considers varied stakeholder perspectives, learns from many constituencies, and course-corrects toward inclusion and community building. Leaders who embody this style tend to be sensitive, attuned, and responsive to differences. They embrace responsibility for working with disparities and proactively build relationships to move the organization forward. ECL fosters human sustainability by engaging in a meaningful dialogue about enabling a work environment where people feel human (versus an inanimate part of work furniture). By embracing ethics of care, leaders can decrease cognitive overload by enhancing social harmony.

### Discussion Questions

- How does ECL differ from traditional leadership models in addressing employee cognitive overload and well-being?
- In what ways do the principles of ECL challenge the stereotypes associated with gender roles in leadership?
- Reflect on the historical perspective of leadership. How have societal views on leadership qualities evolved, and what factors have influenced these changes?
- How do the principles of ECL align with the current needs of the workforce?
- Consider the concept of reciprocal determinism in the context of ECL. How might a leader's behavior influence the organizational environment and vice versa?
- Can the application of ECL principles be effective in traditionally male-dominated industries? Why or why not?

### Exercises

- Reflection. Write a reflective journal entry about how you have experienced ECL in your work life or observed it in others. What were the outcomes, and how did it affect the organizational culture?
- Debate. Argue for and against this statement: "ECL is inherently more feminine than masculine," using evidence from the chapter and outside research to support your points.
- Action Plan. Develop an action plan for incorporating elements of ECL into your leadership practice, highlighting specific strategies and their expected impact on human sustainability.

## Notes

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# 8

## MODIFY HUMANS

### Are There Limits to Transcending our Limitations, is *Homo Sapiens* Outdated, and How to Contemplate AI Upgrades?

In this chapter, we explore the precipice upon which the human species currently stands and discuss the notion that *homo sapiens* might be on the cusp of a morphological evolution. This transformation is driven by the unprecedented demands on cognitive processing in our rapidly evolving world, the growing possibilities of artificial intelligence AI to assist us, and the blurring of their boundaries. We probe into the prospects of AI-enhanced cognitive capabilities and consider the implications such advancements may hold not just for human sustainability at work but also for the essence of what it means to be *homo sapiens*. In doing so, we discuss examples of what AI might do for the fabric of daily human existence, contemplate the evolving identity of our species, and what such a metamorphosis of labor and productivity would mean for contemporary organizations.

There is a pressing need for widespread and visionary societal contemplation about the trajectory of human evolution. As we stand on the brink of these transformative changes, it is imperative to reflect on our species' future. This chapter is a call to examine the potentials and pitfalls of our symbiosis with AI and an invitation to envision a future where our cognitive and morphological landscapes are intertwined with the digital realm. The potential for progress is exponential, and related social dilemmas have never been more extraordinary.

However, such a future cannot be extrapolated from our past, as the distance between now and the future is qualitatively greater than between now and the past. The ideas, even of the recent past, e.g., since the Renaissance, might not be relevant to AI-driven ideas for the future. For example, most of human progress so far revolved around better external tools and more

knowledge. We are discussing changing who we are through bio-engineering (e.g., genetically ingenerated designer babies and super-productive and obedient workers), cyborg development (e.g., mechanically enhanced humans), and human robotization devoid of organic chemistry. The difference between humans 2.5 million years ago and us, as we share basic brain structures and functioning, will be smaller than the differences between us now and upgraded humans in the near future if we decide to go there. What if some choose to upgrade to genetically or mechanically enhanced Super Humans and some prefer to stay good-old *homo sapiens*? How will the former treat the latter if the most relevant example is how we treat the chimps with only 2 percent DNA differences? It is not the best analogy, but an observable one.

### **Undeniable Progress Opportunities and Progressive Disagreement About Them**

Some AI and biotechnology convergence present opportunities for undeniable progress and invoke little disagreement. For example, consider the contribution of 3D technology in a clinical setting, where a custom implant is printed in the hospital while the doctor and the patient wait for several minutes. Another tangible reality within our grasp is individualized medicine and pharmaceutical care. Based on one's genetic makeup, precise medical diagnoses could be made, and exact drug dosages would be delivered, obviating the "trial-and-error" approach of the past. Not too many object to nanotechnology and little mechanical creatures patrolling bloodstream for signs of cancer and other diseases and killing them in real-time, with no pain to us.

Progressive disagreement can start with recent comparisons of medical doctors (MDs) and AI. For example, in early 2024, an AI system trained to conduct medical examinations matched and surpassed human MD's performance at conversing with simulated patients. The chatbot was also more accurate than board-certified primary-care MDs in diagnosing respiratory and cardiovascular conditions. AI also outperformed radiologists. Interestingly, compared with MDs, the AI was ranked higher on empathy; that is, the AI not only outperformed MDs on acquiring and distilling information to reach medical conclusions but how it did so on a "human" level surpassed even humans.<sup>1</sup> This same study revealed that the ChatGPT AI system, developed just for medicine, brings about 10 million hours of medical practice right from the start. How long would a human MD take to get there (~130 years of training)? How about humans' aging and cognitive decline over time, whereas AI learns more with new information and time?

Further, the synthesis of technology and cognition, known as AI-brain fusion, could redefine the fabric of human intellect and productivity, but it invokes existential quandaries. For example, On November 6, 2023 the media

announced that Elon Musk's company Neuralink had received approval from the Food and Drug Administration for the start of clinical trials on surgeries implanting processing chips in human brains as an add-on.<sup>2</sup>

The first surgery was performed in January 2024. Similar prospects of AI-brain fusion would allow for technical leaps that could morph humans into beings that resemble avatars and cyborgs, entities that blend organic with mechanical. Embarking on this path could enhance productivity beyond imagination while venturing outside of the *homo sapiens* realm.

This metamorphosis raises profound questions about our future identity as a species and necessitates existential decisions of unprecedented magnitudes. Taking this journey would represent a seismic shift in the evolutionary narrative of humanity. We know where we are now: we multiplied and developed more than any other animate being on Earth, but humans also suffer from FOMO or fear of missing out. Transcending the biological blueprint that has defined us for millennia might deliver a shattering blow to our trek as *homo sapiens*, but maybe it is time.

As we contemplate the transition, we face technical challenges as the mechanics could go wrong and unleash some monsters nobody wanted or predicted. Moreover, prodigious philosophical quandaries of redefining the meaning of being "human" are ahead of us. These are valid academic concerns, but the bottom line is we could do it practically. With only the laws of nature to keep us grounded, since we declared God dead, humans do not appear to answer to anyone on this planet. All that is left of any significance is us and the animals we domesticated. We reduced the once virtually infinite population of wolves to 200,000 just now while creating 400 million domesticated dogs, formerly wolves, before being corrupted by humans.<sup>3</sup> We are impressed by lions, but they are dangerous. So, we let 40,000 of them remain, but we created 600 million little lions that we like to cuddle, called house cats.<sup>4</sup> Humans have advanced from brutes to brilliance, and nobody tells us what to do on this Planet. But, we have reached a point where we must address what we could do given the AI possibilities in front of us and, perhaps more importantly, what we *should* do, going forward.

## What We Already Do

The following advancements are either already being used, technologically possible, or are on the near horizon. We start with options that are relatively straightforward extensions of current technical capacities. For example, Amazon has a patent for a wristband to track employee movements in warehouses via GPS and then poke them if they use inefficient routes to encourage them to use more efficient routes for retrieving and organizing packages. Likewise, IBM has a patent on a system to monitor employees' sleep patterns and compare that data with their pupil dilations observed by cameras around the workplace. Workers identified as worn-down are

delivered a jolt of caffeinated liquid by drones to avoid disruptions by coffee breaks.<sup>5</sup> AI is also increasingly used in recruitment to screen resumes, identify the best candidates, and even interview potential employees while analyzing their microfacial expressions.<sup>6</sup>

To illustrate how far AI has developed more broadly, consider Amazon's Alexa and Apple's Siri. These are both AI voice assistants designed to make lives easier. It was estimated that in 2024, there will be 8.4 billion AI assistants in homes – more than the world's population.<sup>7</sup> Today, we can talk with AI, ask it to make calls and send texts, set reminders, timers, and alarms, play music, get news and weather updates, or answer random questions. AI also integrates with most home devices, enabling it to control your home – from turning on and off the lights, searching the TV for shows, adjusting the temperature, turning on and off the sink, opening and closing the garage, and locking and monitoring home while away. You don't have to verbalize these commands to AI. You can simply preset routines. Even vacuums and mops are integrated with AI, enabling robots to map out your home, clean on demand or a schedule, and even empty the dirty bin themselves, requiring human intervention once every 60 days. AI can also shop for you; just tell Alexa what you want to order from the Amazon store, and she will purchase it.

In collaboration with the German Space Agency, IBM has created an AI personal assistant for the International Space Station that auto-flies while conversing with astronauts aboard using face recognition to identify each one of them.<sup>8</sup> Self-driving cars are already a reality, and soon, there will be ferries and airplanes that can take us from point A to B without human intervention. Manufacturing has benefited from AI for years, with AI robotic arms and other robots dating back to the 1960s. Industrial robots have historically worked alongside humans, but little to no human intervention will be needed in the future. In healthcare, in addition to the examples discussed above, AI can streamline the discovery of new medications, as well as patient monitoring through virtual nursing assistants. In education, AI detects plagiarism in writing. In virtual classrooms, facial recognition and natural language capabilities will likely help instructors gauge emotions and learning effectiveness to identify struggling or bored students. In the media, The Associated Press already uses "Automated Insights," which produces thousands of stories per year, but advancements in AI-written stories are likely to mushroom. Customer service also relies on AI, with automated chat-bots and voice systems.

### **More Far-Fetched Possibilities**

The next set of possibilities is more far-fetched to digest their implications readily. Once AI can understand all human language, which is soon, it could read and understand everything ever written. Then, we can use AI to synthesize all human knowledge and integrate it to answer questions never thought of before. In addition, we could create a collective reservoir of skills

and aspirations in the cyber world by uploading and then downloading digitized versions of human brains. These chips with the “ideal” brain could be implanted in willing biological humans. This could result in productive workers who obey management orders, do not ask for raises, and do not go on strikes. Because these would likely be a mix of biology and machinery, they would get sick and injured less, reducing the company’s healthcare cost. At a societal level, a similar procedure coupled with gene cloning extends the choices to include designer spouses and babies, fearless soldiers, tireless public workers, physicians, teachers, and politicians. When we come home from work, the refrigerators will know how we feel and automatically deliver the best food and drinks for our mood, practically reducing the need for family. TVs would play the most suitable shows, to say nothing of mood regulation by lighting, temperature, and music, all aligned and changing in concert with our current biometrics.

Virtual reality could become so real that it will be hard to distinguish it from reality – a real-life version of the 1999 movie *The Matrix*. The virtual world could be made to feel heavenly, making humans want to stay there. If one can have heaven at home, why bother going out, let alone going to work? As we enjoy heavenly virtual reality at home, aging could be slowed down, and within decades, perhaps dying will become a choice rather than a destiny. These possibilities appear almost magical from our present conception of the world.

## Implications

### *Privacy Concerns*

AI advancements could be transformative, as discussed, but they also bring with them a set of implications. The first one is reasonably practical, as the effectiveness of AI-brain fusion in organizations is still largely untested, in addition to being legally unregulated and morally unclear. These concerns likely preclude implementation efforts soon. Even AI, in its current state, comes with privacy risks. It relies on big data, and several examples have illustrated the dangers it poses to privacy. For example, the Cambridge Analytica scandal of 2018 highlighted the impact AI could have on people’s behavior and beliefs. In short, the AI tool collected information without people’s consent from their Facebook data. It was sold to clients, such as political campaigns, enabling them to target political messages to those who could be influenced, known as “microtargeting.” This was apparently used to swing voters in the U.S. election.<sup>9</sup>

It similarly came to light that Amazon’s Alexa was eavesdropping and saving voice conversations and commands without users’ knowledge. When someone’s recordings were mistakenly shared with another user who had requested his data, the result was an unveiling of a stranger’s personal life,



from personal habits, taste in music, and girlfriend conversations.<sup>10</sup> Most people carrying a cell phone have it within reach or personal assistant devices in their living spaces. Commands such as “Hey Siri,” “Alexa,” or “OK, Google” activate these AI assistants. However, for this feature to function, the devices must listen to everything that is said to recognize “wake words.” AI-enabled devices are not ignoring everything else; instead, they use all types of data, including voice, to create a profile of a consumer, which, in collaboration with marketing companies, is used to show you ads relevant to your living habits.<sup>11</sup>

AI listening and collecting data is legal, provided you accept the terms and conditions when you upgrade your software or download your app. Smartphone manufacturers and app developers collect data, from audio to browsing to other web activity. Apple CEO Tim Cook said in a 2015 speech, “They’re gobbling up everything they can learn about you and trying to monetize it.” Later in his speech, he noted, “For AI to be truly smart, it must respect human values, including privacy. If we get this wrong, the dangers are profound.”<sup>12</sup> As with humans, if put to good use, intelligence benefits society. However, if not implemented responsibly, it poses a risk and could impact human rights. Even Musk, a high-profile investor in AI, founder of SpaceX, and CEO of Tesla – the world’s first self-driving vehicle – has cautionary warnings, “With AI, we are summoning the demon.”<sup>13</sup>

### ***Investment, Price, Unequal Access, and Social Divisions***

AI development requires investment. Coupled with the need to recuperate the cost of investments and to make a profit, businesses might occasionally be impervious to social considerations, such as its potential to deepen social divisions. Given the rapid pace of AI advancement, it is not hard to foresee a moral quandary where a poor child’s natural giftedness is relegated by a wealthier child’s artificially enhanced mind. How would this scenario play out if standardized testing was still around? If the scores should be adjusted for the use of AI-enabled brain chips, then what is the point of using AI in the first place? When IQ testing was first used in the U.K., it was meant to identify intelligent kids from the lower social strata who should be afforded more significant societal opportunities than their social status would predict.

The flip side of this argument is that the wealthy first get to AI brain enrichments and widen the social gaps further, as the less affluent might not have the means to afford AI. Until a society agrees on how to handle the possibility of purchasing AI-brain enhancements and genetic upgrades, the blend warrants social scrutiny. If AI-brain boosts became a market-driven reality, like other more mundane products, that would check-mate the competition as we know it today. The wealthy will buy it and outperform the rest. A multitude of quandaries might follow.

### ***Cause and Effect***

This issue relates to choices in the present that impact the future. For example, if genetic upgrades for a fetus are an option, but the parents choose a “natural” birth, leaving the genes as they were at conception, could that child sue the parents in the future for choosing to pass potentially ugly or less competent genes? Because that parental choice to remain natural could put the child at a societal or career disadvantage in the future, should the kid be entitled to recuperate lost income from their parents for making, arguably, outdated evolutionary choices? This is perhaps akin to a contentious issue concerning parental refusal of childhood vaccines. Child neglect laws vary by state in the U.S. Still, a common thread among them defines a neglected child as one whose “conditions have been impaired or is in imminent danger of becoming impaired” because of parental acts of omission in the care of their child. If parents choose not to vaccinate their children, courts, though permitting religious exemptions, have historically found this decision to constitute child neglect.<sup>14</sup> In reverse, should future parents who opted in for genetic alteration reap benefits attributed to their now beautiful and super-smart children since these are due to parental evolutionarily progressive choices in the past?

### ***Sharing in the Social Benefits for Profit in Organizations***

If individualized medical and pharmaceutical care can rely on biological and genetic data for diagnoses and prescriptions, should organizations also have access to employee health data to price liabilities more accurately, given potential genetic predispositions to diseases their workers might have? Today, employers are generally not permitted to examine medical records of their employees without permission as a result of the HIPAA (Health Insurance Portability and Accountability Act), but in some cases, they can. For instance, if you make a worker’s compensation claim or need a disability accommodation, your employer can request medical information from your healthcare provider. Although organizations might not be able to legally access bio and genetic data, recent evidence of security breaches and cyber hacks suggests other ways to leak and resell information.

For instance, 23 and Me, a genomics and biotechnology company that provides users with their DNA information, including ancestry, health genetic dispositions, and biological relatives, was hacked in 2023, resulting in about 6.9 million 23 and Me users’ DNA information being stolen. The stolen information was posted online for sale, and, according to reports, it included users’ ancestry and health-related information based on users’ genetic profiles. The 2008 Genetic Information Nondiscrimination Act (GINA) protects against employment and health insurance discrimination if information from a DNA test becomes public knowledge. The idea was to protect people from being denied employment if, for instance, a DNA test

suggests they are at risk of developing a debilitating condition, which could cost a company lost productivity and greater healthcare costs for that employee. However, the law has loopholes. Life insurance and disability insurance companies can deny policies based on genetic information.<sup>15</sup>

Beyond health data, personality research in Industrial and Organizational Psychology has demonstrated genetic underpinnings of personality traits and, by extension, behaviors at work.<sup>16</sup> If not for health purposes, it could be argued that genetic data should be shared with organizations to match the best individual for the job. In an ideal sense, this could be a win-win. The organization hires a productive worker who is more likely to remain with the company, and the employee is happy because the job fits their personality. For instance, conscientiousness – one of the Big Five personality traits – is relatively predictive of work performance. Thus, if this trait is critical for success on the job and can be assessed with genetic information in advance, why would organizations not be interested in obtaining and using this information? Or, why would society allow sharing such information for medical purposes but not for wealth creation in organizations, which indirectly benefits many?

### ***Staying Homo or FOMO (Fear of Missing Out) Dilemma***

There is a dilemma at an individual level of analysis as to whether to participate in the AI-driven systems of possibilities. To receive a perfect and up-to-date medical diagnosis (e.g., on your iPhone watch), pharmaceutical prescriptions, drug dosing, personalized teaching instruction, and the safest driving routes, speeds, and maneuvers from your self-driven Tesla, you must participate by voluntarily sharing your information. Your biometrics, genetics, eating habits, driving routines, and learning patterns would need to be monitored daily and fed into the AI, which will put it all together at virtually non-existent error rates.

Thus, one choice is between better everything, which is inherently good. Why would we not want better medical care, safer cars, and more effective delivery of knowledge by teachers? Possibly because that requires sharing everything, which can be abused or used against you, as in the example above of using worker genetics to price insurance premiums. Because these will be choices to make, we fear what such trepidations will do to cognitive load.

From the range of options, those who share data, get the best AI responses and do not get abused will be ahead of the rest of us in everything, including less cognitive load. Those who do not share data and do not receive AI guidance, yet get abused anyway, will be in the worst position, missing new progress and getting shafted by the old system. Undoubtedly, some will be paralyzed by these choices and do nothing, unsure of what to make of these possibilities and their moral and social implications. Those

who decide to stay *homo sapiens*, by choice or indecision, might end up being the morally and socially conscious among us. However, suppose society moves forward with new forms of AI humans. In that case, those who remain fully human will not only be unemployed but potentially unemployable, as they would be no match to human hybrids.

### ***What Should We Do?***

Transformative AI advancements engender profound implications for future human identity and society. Humans are at the cusp of redefining our existence and experience, going forward, and we believe there is a responsibility to offer some existential philosophy that could accompany leaps in technical innovation to help us find meaning, not just usefulness, in it. We also believe that such analysis should entail both enthusiasm for the future potential and caution.

What concepts could navigate the moral landscape to help us understand who we are when the lines between human and machine become indistinct? Philosopher Friedrich Nietzsche feared that *God Was Dead* since 1882, and psychiatrist Carl Jung wrote about the inability of *The Modern Man in Search of His Soul* to find it, at least in 1939 when the book was written. Religion has been moving to the sidelines in the U.S. for a while now. Moral pragmatism is growing on social media, and humanities studies are being attacked for uselessness. So, it seemed appropriate to ask AI,<sup>17</sup> “What concepts could navigate the moral landscape to help us understand who we are when the lines between human and machine become indistinct?” Here are AI’s thoughts about the moral landscape in the future and philosophical concepts that can offer conceptual guidance in understanding the evolving identity of humans via ChatGPT:

- **Transhumanism:** The idea that humans can and should use technology to transcend the physical and mental limitations inherent in our species. Transhumanism could help frame the moral conversation around human enhancement, raising questions about what improvements are ethical and how they might impact the essence of human experience.
- **Posthumanism:** Posthumanism challenges the traditional view of humanity’s place in the world and questions the notion of “human” in light of emerging technologies. It encourages us to think beyond human-centric ways of understanding existence and to consider new forms of being.
- **Technoethics:** This field explores the ethical dimensions of technology and its impact on human life, society, and the environment. Technoethics can help navigate the moral implications of AI integration, ensuring that progress aligns with human values and well-being.

- **Machine Ethics:** As AI systems become more autonomous and capable, machine ethics investigates the principles that should govern their behavior. This can lead to a better understanding of how we coexist with intelligent machines and what responsibilities we have in designing them.
- **Identity Theory:** Theories of personal identity can help us understand what it means to be the same person over time, especially as we integrate technology into our bodies and minds. They can inform the discussion on how AI integration might change personal identity and the concept of self.
- **Bioconservatism vs. Bioliberalism:** The debate between bioconservatism and bioliberalism can help us weigh the merits of preserving human nature as it is versus embracing the potential for change through technology. This dichotomy can inform policy decisions and individual choices about the adoption of AI enhancements.
- **Moral Enhancement:** The concept of moral enhancement, where our ethical reasoning and behavior could be improved through technology, raises the question of how we might ensure that AI-brain integration supports and promotes virtuous conduct.
- **Narrative Ethics:** This approach to ethics emphasizes the importance of storytelling and narratives in shaping our moral understanding. As we create new narratives that include AI as part of the human story, we can better grasp the ethical considerations of our evolving identities.

It was the opinion of the AI that these concepts can act as compass points, guiding us through the moral complexities of a future where humanity and technology are increasingly intertwined. They can help us maintain a connection to our core values while being open to the transformative potential of AI and biotechnology. We next asked: “How do these philosophical concepts translate to the workplace?” and received the following responses (all quotes):

- **Transhumanism:** In the workplace, transhumanism could lead to enhanced cognitive and physical capabilities for employees through AI and biotechnological interventions, potentially increasing productivity and efficiency. It would also raise questions about equity, such as who has access to these enhancements and how they impact job opportunities.
- **Posthumanism:** This concept could challenge traditional organizational hierarchies and job roles, as the integration of AI might create roles that have never existed before, calling for new management philosophies and leadership styles that are adaptive to these changes.
- **Technoethics:** Implementing AI in the workplace necessitates a framework that considers ethical implications, such as data privacy, algorithmic bias, and the impact of automation on job security.

Technoethics would help shape policies that protect employees' rights and promote a fair work environment.

- **Machine Ethics:** As AI systems take on more decision-making roles, machine ethics would be crucial to ensure these systems operate within ethical boundaries and make decisions that are in the best interest of all stakeholders.
- **Identity Theory:** The workplace increasingly becomes a place where personal and professional identities merge, especially with digital avatars and virtual interactions. Understanding how technology affects employees' sense of self and their social relations at work is vital for maintaining a healthy work culture.
- **Bioconservatism vs. Bioliberalism:** This debate could manifest in the workplace through discussions about the limits of enhancing employees with technology. Should there be limits on how much an employer can require or encourage such enhancements?
- **Moral Enhancement:** In a professional setting, moral enhancement might involve using technology to promote ethical behavior and decision-making, leading to discussions about the nature of autonomy and the moral development of both employees and corporate entities.
- **Narrative Ethics:** Companies might employ narrative ethics to craft stories that incorporate their technological trajectory, helping employees understand and navigate the moral landscape of a technologically integrated workplace.

In practice, AI believes (if capable of holding a belief?) that these concepts could inform everything from HR policies to the design of workspaces, from employee training programs to the development of corporate culture, ensuring that as organizations evolve with technology, they do so with an awareness of the moral dimensions of this transformation.

## Conclusion

It was interesting to learn what AI thinks of itself, going forward. Below are our (human) reflections on the same question: "What concepts could navigate the moral landscape to help us understand who we are when the lines between human and machine become indistinct?" We are unsure of the specific answer but have several suggestions regarding the thinking process.

As we stand at the crossroads between old and new humans, some fusion between biology and AI ought to be expected and, perhaps, welcomed – to an extent. Accordingly, some new form of fused conscientiousness will be needed to find meaning from this fused level of analysis. In finding such a new level of thinking, scientific desires to search for new knowledge and implications (including profit-making) should be balanced with how our human legacy might contribute or distract from the future trajectory of our evolution.

The search for an easier life might propel us toward AI without many reservations because the idea behind it is as simple as it was for agriculture. But look how that logic worked out for us in the era of agriculture in terms of cost to human dignity, class stratification, racial inequality, and slavery.

We are inclined to believe that curiosity will get the best of humans, as it has been a distinct feature of our evolution. Scientific progress has been unstoppable after the Enlightenment. We now know how much we do not know. Coupled with curiosity, that is an overpowering combination for the scientific minds to push forward. The monetary drive will also be strong, as usual, because these AI-driven innovations stand to make a lot of profit in the future. Whether religious, moral, or legal action can counterweight some or all of this, or even if they should (and just let people live forever), is unclear. The AI-integrated innovations discussed throughout this chapter will likely reduce cognitive overload by automating many human functions. However, the ambiguity in making these complex decisions might take more cognitive processing and overload than before, potentially worsening the problem.

### Discussion Questions

- How does the potential emergence of “Superhumans” through AI and biotechnological enhancements challenge our current understanding of human equality and ethics?
- Can AI replicate human empathy and other emotional responses, or is there an intangible element to human interaction that technology cannot capture?
- How might society address the divide that could emerge between enhanced and non-enhanced humans? What historical precedents can we learn from?
- In what ways could AI enhancements in the workplace contribute to or detract from the concept of meaningful work?
- How should the law evolve to protect individuals’ rights in the face of advancing AI technologies that blur the lines of individual privacy and autonomy?
- What are the ethical implications of AI technologies that can predict and influence human behavior, such as recruitment tools and medical diagnostics?
- If AI can enhance human cognition, what does that mean for the value we place on natural talent and effort?

### Exercises

- Debate. Argue for and against this statement, supporting your arguments with key points from the chapter: “The benefits of AI and

biotechnological enhancements for human evolution outweigh the potential risks.”

- Creative writing. Write a short story or narrative from the perspective of a person living in a society where AI enhancements are the norm. What are the societal norms, and how do they interact with enhanced and non-enhanced individuals? What is the impact on the organizational culture and expected working conditions for humans?
- Scenario Analysis. Read the following scenario and analyze the outcomes from multiple perspectives – the enhanced employee, non-enhanced employee, employer, and society:

Background: CyTech Corp, a leading tech company known for its innovative approach to software development, introduced an AI cognitive enhancement program. This program offers employees the option to undergo a procedure that implants a chip in their brain, purportedly to boost cognitive functions such as memory, concentration, and problem-solving abilities. The company claims this will lead to greater efficiency, innovation, and a competitive edge in the market.

The program is voluntary, but employees who opt in are promised significant bonuses, faster career progression, and access to exclusive projects. Those who decline are assured that their decision will not negatively impact their current position. However, there is an unspoken understanding that the future of advancement in the company may favor those who opt in.

Characters:

**David:** A software engineer with a strong moral stance against AI augmentation, fearing the loss of what it fundamentally means to be human.

**Jordan:** A project manager who is eager to opt-in, driven by the desire to excel and driven by a fear of being left behind in the fast-paced tech industry.

**Sam:** The CEO of CyTech Corp, who genuinely believes that this program is the future of the industry and will benefit the company and employees alike.

**Taylor:** An HR representative tasked with overseeing the rollout and addressing employee concerns, while also managing the potential division the program may create.

**Casey:** A young, ambitious new hire enthusiastic about the augmentation and what it could mean for their career.

**Morgan:** A seasoned employee with concerns about the long-term health implications and the lack of long-term studies on such enhancements.



## Discussion Points

- How will the AI cognitive enhancement program affect team dynamics and workplace culture? Who stands to benefit and who stands to lose out?
- What ethical considerations arise when some employees are enhanced and others are not? What are the downstream consequences for each of the characters?
- How should the company address concerns about potential health risks and psychological impacts? How should Taylor manage and address these concerns?
- How should CyTech Corp ensure that non-enhanced employees do not feel coerced into participating to safeguard their career paths?
- How might government regulations and labor laws need to evolve to address such workplace enhancements?

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# 9

## COGNITIVE AUTOMATION

### Reducing Cognitive Overload and Boosting Performance Without Attention

We must give up the insane illusion that a conscious self, however virtuous and however intelligent, can do its work single-handed and without assistance.

*Aldous Huxley, The Education of an Amphibian*

The main argument in this chapter is that employee productivity could be based on less, not more, attentional processing. On the surface, this may appear as outlandish as some of the artificial intelligence (AI) possibilities discussed in the prior chapter. But, there is one key distinction. The possibilities in the preceding chapter are primarily based on predictions grounded in present-day data on innovation, whereas ideas in this chapter have received a fair amount of research.<sup>1</sup> In particular, we next discuss cognitive automation of some attentional processing to reduce cognitive overload and maintain, if not improve, organizational performance.

We define cognitive automation as the subconscious processing of information that replaces attentional processing of the same information and results in the same outcomes. Cognitive automation can have considerable functional value in organizations because it can free up scarce attentional resources that can then be redirected to where they are irreplaceable. Thus, we propose that more cognitive automation, not less, is possibly the future of organizations. In distinction from the last chapter, cognitive automation discussed here does not depend on AI integration or on brain surgery to install a computer chip. Instead, we contend that organizations might advance by extending the number of functions employees can perform with less attentional deliberations by shifting some of the processing from consciousness to subconsciousness. As William James suggested, “We must

make automatic and habitual, as early as possible, as many useful actions as we can.”<sup>2</sup> Automation of some employee attentional processing shares the same purpose as technological automation, such as cruise control in cars and auto-pilot in planes – namely, to reduce human cognitive load by automating processing.

Research shows that subconscious processing could be as effective in guiding some decisions and behaviors as attentional processing,<sup>3</sup> which increases its theoretical and practical viability in organizations.<sup>4</sup> In light of the present-day merciless business competition, we posit that employee cognitive automation is more pertinent than ever. The question is how to operationalize it at work meaningfully. We suggest that some attentional guidance needed to pursue conscious work-related goals can be replaced by subconscious processing and automated behaviors triggered by subconscious or primed work-related goals. Priming occurs when a cue in the environment activates a mental representation of a goal, automatically triggering behaviors without awareness.

With these ideas in mind, we proceed as follows. Primed goals operate on a subconscious platform, which predicates automaticity. We first review the extant literature on automated cognition and connect it to organizations. Then, we discuss conscious goal-setting research and connect it to primed goals, especially in organizations. We next describe four models of goal priming. They explain how goal-behavior associations are formed in the subconscious and how such associations are primed into automatic behaviors that can accomplish outcomes similar to those of conscious goals. A discussion of empirical research follows.

## Automated Cognition

One aspect of research in cognitive psychology has been to identify human cognition at an individual level that can be automated. Automated cognition, or cognitive automation, is subconscious processing that can aid or replace attention processing and result in similar outcomes. Research on subconscious processing examines whether automated cognition can consider alternatives and make adaptive choices across activity domains without attentional assistance. If automated cognition is used to help augment work and save on attention, then the net gain is more attention that can be used where attention is irreplaceable. Some scholars have suggested that subconscious processing is more effective than attentional processing for some deliberations because it is less constrained. Neuroscience research shows that brain regions activated during the initial encoding of information remain active even after attention has shifted elsewhere.<sup>5</sup> Sustained activation of the brain regions that were initially activated enables the subconscious mind to integrate more information than attention can with its singular focus on any

given moment. The theory of unconscious thought describes These processes in greater neuropsychological detail.<sup>6</sup>

Research on automated cognition can be recapped with the phrase “preferences need no inferences.”<sup>7</sup> That is, when inferences can be made reliably, they should be made by paying attention, collecting data, conducting rigorous analyses, and using the results to decide. For instance, investors use financial data and sophisticated computing aids to anticipate market fluctuations. If a trucking company needs equipment, there are reliable data sources about price, mileage, and maintenance costs. Draft picks in basketball are based on years of data about players’ performances, which computers can reliably analyze. However, what are managers to do when analytic inferences are neither available nor possible, but decisions are needed *in the now*? People who cannot make analytic inferences revert to “built-in” preferences to guide their functioning. A pedestrian walk through the helter-skelter of the Los Angeles traffic vividly illustrates this point. There is no “stop the world button” for a pedestrian to study the intentions of incoming traffic; one must act in the moment or be run over.

Management scientist Herbert Simon was one of the first to consider these concepts and extend them to organizations by proposing that limits of *attentional processing capacity* (APC) make it challenging to process *attentional processing demands* from multiple sources and dialectics at work attention. Restricted APC results in the bounded capacity of organizational members to be rational all the time. Because decisions must be made regardless of whether APC is depleted, subconscious processing, either as a substitute or supplement to APC, steps in. Although the subconscious might have considerable functional value at work if it frees up APC, most management theories moved away from Simon’s emphasis on APC at an individual level<sup>8</sup> in favor of organization-level solutions rather than subconscious ones. Nonetheless, Simon continued developing his idea of bounded rationality and specified how it works in managerial decision-making:

Every manager needs to be able to analyze problems systematically (and with the aid of the modern arsenal of analytical tools provided by management science ...). Every manager needs also to be able to respond to situations rapidly, a skill that requires cultivation of intuition and judgment over many years of experience and training. The effective manager does not have the luxury of choosing between “analytic” and “intuitive” approaches to problems. Behaving like a manager means having command of the whole range of management skills and applying them as they become appropriate.<sup>9</sup>

Some books on organizational culture noted that culture has an automatic influence such that it “matters because it is a powerful, tacit, and often unconscious set of forces that determine both our individual and collective

behavior, ways of perceiving, thought patterns, and values.”<sup>10</sup> Yet, aside from goal priming, described in detail in the next section, nearly all management theories are still based on attentional cognitive processing.

## Conscious and Primed Goals in Organizations

A good portion of human behavior is organized and put in service of some goal, simply defined as a desired end-state. Such tendencies depend on the cognitive capacity to create a mental representation of what we want, i.e., have a goal and then enact behaviors in that direction. Research has documented that goals positively affect various work-related outcomes in the context of organizations.<sup>11</sup> Moreover, conscious goals are top-ranked out of all organizational variables for effectiveness.<sup>12</sup> Suppose organizations can garner similar effects generated by conscious goals by instead (or in addition) priming subconscious goals at little to no cost to attentional resources. In that case, the competitive landscape will never be the same. We base this notion on the following premise of goal-priming research:

... not only should conscious and nonconscious goals produce the same effects, but they should also produce the same effects in the same way.<sup>13</sup>

How does this work? Briefly, for now, if a goal directs a behavior chronically in a given environment, then the goal and the behavior may become associated in memory over time. Such associations can become gradually automatic due to recurrent practice and get stored in the subconscious. When we enter a social context where a cue from the environment is encountered, it can prime the goal. Once primed, the goal triggers its associated behaviors, which unfold automatically without conscious assistance. Priming subconscious goals creates considerable functional value because it saves attentional processing while positively affecting outcomes, as do conscious goals. About two hundred studies have supported the effectiveness of primed goals. Organizations are on the lookout perpetually for new sources of competitive advantage. Findings on priming goals are burgeoning, and many potentially relate to organizations. So, what does it buy us not to consider them? One reason comes recurrently from our Executive MBA students and leaders we consult with: the subconscious is a chamber of the unknown in the business world. By reversing the correlates, the subconscious can become a gateway of possibilities that science can help open to the business world. Within this sandbox, we frame this narrative.

The contribution of this chapter boils down to three main points: 1) Power of subconscious processing is inordinate and can be used by all

employees at any time; 2) Priming subconscious goals can produce similar effects to the effects of conscious goals, and the former can occur at little to no cost to employee attentional processing; and 3) The idea of facilitating cognitive automation at work, by priming some goals instead of setting them, can bring not only competitive advantage of vast potential to organizations but also one that is hard to imitate.

### ***Goal-Setting Theory***

The tenets of goal-setting theory, tested by empirical research across five decades, are comprehensively discussed in Locke and Latham's 2015 book. In essence, goal-setting theory posits that specific and challenging goals enhance performance more effectively than ambiguously formulated goals, such as the self-set or assigned goal to do your best. Setting a difficult goal is linked to better performance than pursuing an easy or do-best goal. Although some might prefer easy goals because they enable them to feel a sense of "small wins," easy goals cap effort, leaving employees short of fulfilling their full potential. The strength of this relationship is subject to four moderators (boundary conditions that can change the magnitude or even direction of the relationship): ability, goal commitment, resources needed for goal achievement, and the availability of feedback. Goal theory revealed that feedback only helps subsequent performance when it contributes to forming a new, specific, and challenging goal for the next round. Mediators (psychological mechanisms connecting the predictor and the criterion) influencing goal-performance trajectory include focus, effort, persistence, and strategies geared towards achieving the goal, especially on complex tasks.

### ***From Conscious to Primed Goals***

Psychologically, goals are represented as desired end-states. Goals, however, are not stored in isolation within our minds; instead, they are incorporated into an organized body of structured knowledge. This knowledge structure is akin to a network of interrelated concepts and propositions. The complexity of these networks ranges from highly detailed to broadly general, and they are organized in a manner that reflects their associations and functions in the cognitive landscape. Therefore, if conscious goals are linked in memory with their facilitative behaviors and contextual representations of environmental features in which they are frequently pursued, then goals can be automated and triggered when mentally stored representations of the environment are encountered in and primed by the environment.

How do we bridge conscious and subconscious (henceforth) primed goals? It starts with recognizing that our experiences and accumulated knowledge are not held in our consciousness at every moment. For instance, childhood memories of a playmate or a beloved pet might not be active in our consciousness. Yet, such memories can be readily summoned into consciousness when prompted. Priming or environmental cues often trigger this ebb and flow of information in/out of awareness. For example, glimpsing at photographs of a once-cherished experience can spontaneously invoke dormant memories. This retrieval process is automatically triggered, unfolding without deliberate intent to recall a specific memory.

Extending this reasoning to work, employees draw from their repertoire of skills when pursuing goals. They can apply skills to goals if they already have the requisite skills. Take, for example, loggers tasked with cutting more trees. They might simply intensify their efforts to meet this goal, capitalizing on established goal-behavior associations. As the task is the same, the goal is to increase productivity by using familiar skills. Conversely, when faced with a novel goal requiring new strategies – maximizing the average weight of truckloads – the loggers must engage in conscious deliberation and planning, e.g., because multiple paths to the goal exist.

### ***Models of Goal Priming***

As described in our 2019 book, *Cognitive Automation*,<sup>14</sup> there are four models through which primed goals can influence behavior: the auto-motive model, goal contagion, means-goal priming, and the reinforcement model. The auto-motive model suggests that the habitual pursuit of goals in specific settings encodes subconscious cues that trigger goal-oriented behaviors automatically. For instance, a CEO may unconsciously exhibit competitive behaviors in a boardroom due to environmental cues.

The goal contagion model describes how people can infer and adopt goals based on observing others' actions. We observe someone's actions and infer the goal, which can automatically trigger us to pursue the inferred goal. For example, observing a colleague's diligent work could prime an employee's goal of greater productivity. The means-goal model, also known as "bottom-up" priming, involves associations where specific actions are perceived to be the means by which to achieve a goal. These associations don't require personal experience but are based on a shared understanding within a social context. For instance, studying is commonly linked to better grades. Therefore, if you observe someone studying, it could prime a goal for achievement. Lastly, the reinforcement model relates to the automatic associations created between goals, behaviors, and reinforcers from the environment. This model is especially evident in organizational behavior research, where money, social recognition, and feedback are key reinforcers. This prime goal



pathway suggests that the presence of reinforcers may automatically lead to pursuing goals related to those reinforcers in the past.

### ***Does Goal Priming Alleviate Cognitive Load?***

Each of these models demonstrates how goal priming can streamline cognitive processes by reducing the need for conscious deliberation, thereby saving attentional resources. Regardless of the type of goal-priming, its value lies in the function – to trigger behaviors automatically, without using attentional resources, toward the goal. In sports, this is often termed “muscle memory,” such as a swimmer’s turn and push-off from the pool wall or a golfer’s swing. The essence of this concept is to bypass conscious thought (either to save on it or to avoid its finicky nature) and allow deeply ingrained goal-behavior associations to take the lead. The same logic applies to goals at work. Stajkovic and colleagues suggested that priming goals can free up attention, a notion aligned with Cognitive Load Theory, which asserts that automating behavior spares working memory for other tasks.<sup>15</sup>

There are many examples of how goal priming can alleviate cognitive load and enable efficient performance in practice. In healthcare, emergency room staff are trained to respond to crises, such that when a code blue is announced, their extensive drills and training allow them to react automatically with life-saving procedures without conscious deliberation about each step. In customer service, representatives might be primed with customer satisfaction goals. Phrases and scripts ingrained through training would enable them to respond automatically when a common complaint is voiced, empowering them to provide a resolution quickly and efficiently without consciously thinking through the response each time the same complaint is heard. In industries where safety is paramount, such as construction or manufacturing, safety goals can be primed with signs, symbols, or colors (like orange vests) that cue workers to engage in safe practices automatically, saving on attention. In sales, goals related to customer engagement and closing deals could be primed. Through role-playing and repetition, sales reps develop automatic responses to common objectives, allowing them to focus on reading the customer’s non-verbal cues and tailoring their pitch. In software programming, programmers often have a goal to write code that is free of bias. Through practices like pair programming and code reviews, they internalize coding standards and best practices, enabling them to automatically adhere to these principles while coding, freeing up attention to face novel problems elsewhere.

## Practical Implications

In the quest to improve human sustainability at work while maintaining performance levels, the potential of subconscious influences, specifically through goal priming, is intellectually intriguing and practically applicable. Though it's commonly believed that behavior is primarily intentional, research evidence suggests that many actions are guided by unregistered stimuli. Primes within the field of vision but go unregistered by consciousness are known as supraliminal. They are particularly relevant in organizational settings where cues subtly shape employee behavior without their conscious realization. When cues prime goals, they can provide nuanced adjustments to employees' actions in response to their environment.<sup>16</sup> In addition to the known effectiveness of conscious goals, primed goals offer a complementary approach. They can conserve cognitive resources by automating behaviors and freeing up attentional bandwidth for tasks that need it, e.g., handling an unexpected round of lay-offs just announced. Goal priming is cost-and-time effective and unintrusive, seamlessly integrating into daily operations without the downtime associated with formal training programs.

Goal priming is about enacting routine behaviors and steering complex, abstract actions toward desired outcomes without intentional initiation. For overworked executives, embedding prime words in communications or using visual cues like photos can influence employee behavior effectively and discreetly. Field studies corroborate the power of visual primes.<sup>17</sup> For example, customer satisfaction increased when service agents were subtly reminded of their service goals through background images on their screens.<sup>18</sup>

Though valuable, goal priming isn't immune to drawbacks. It's a delicate balance to maintain, as conflicting conscious (accuracy) and subconscious (speed) goals can pull behavior in opposing directions. Organizations need to examine instances where this might occur and align such goals to ensure they support rather than hinder each other. Ethical considerations also cannot be overlooked. Though goal priming can drive positive outcomes for both employees and employers, its manipulation without employee awareness treads a fine line. The technique itself isn't inherently problematic, but the intent and content of priming warrant scrutiny. Taken together, leveraging goal priming can benefit employees and organizations, as it offers a nuanced tool for influencing behavior, enhancing performance, and ultimately, helping with human sustainability at work at minimal disruption and cost and no attentional involvement.

## Conclusion

We proposed cognitive automation via primed goals as a substitute for some goal-related attentional processing. This framework addressed employee cognitive overload in a new conceptual way that recognizes both limited attentional

capacity to process intensifying dialectics in modern organizations and the need to maintain productivity. Our discussion of the theories of automated cognition and goal priming underscores a future where cognitive automation could become a staple in organizational efficiency. By harnessing the power of subconscious processing, organizations can help employees free up irreplaceable attentional resources, allowing them to direct their focus toward tasks that require conscious deliberation and alleviate their cognitive load. The goal priming technique can be pivotal in achieving these aims by automatically activating behavioral responses through environmental cues. Priming goals could have a substantial role in diverse workplaces, from the swift decisions of emergency responders to the ingrained customer service protocols of front-line employees.

### Discussion Questions

- How can cognitive automation be distinguished from mere habit formation in the context of organizational behavior?
- What are the potential ethical implications of utilizing subconscious goal priming in the workplace?
- In what ways might cognitive automation conflict with the need for creative and innovative thinking at work?
- Can the principles of cognitive automation be applied to leadership roles, or is it more suited to tasks with a defined procedure?

### Exercises

- Recall. Think of a time when you performed a task automatically that you initially learned to do with conscious effort. Reflect on how this transition from conscious to subconscious processing occurred and discuss how this change impacted your performance and cognitive load.
- Debate. Write arguments both in favor and in opposition to priming on the grounds of ethical considerations. Consider scenarios that could benefit or harm employee (perceived) autonomy.
- Design an experiment. Design a hypothetical experiment to examine the effects of goal priming in your work setting. Choose a task, identify the appropriate goal-related cues, and determine how you would measure the outcome. What would you expect to find?

### Notes

- 1 For a comprehensive review of research on this topic, see Stajkovic, A. D. & Sergent, K. (2019). *Cognitive automation and organizational psychology: Priming goals as a new source of competitive advantage*. Routledge.
- 2 James, W. (1890). *The consciousness of self* (p. 122).
- 3 Dijksterhuis, A. & Aarts, H. (2010). Goals, attention, and (un) consciousness. *Annual Review of Psychology*, 61, 467–490. See also, Strick, M., Dijksterhuis, A.,

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- 4 For example see, Stajkovic, A. D., Latham, G. P., Sergent, K., & Peterson, S. J. (2019). Prime and performance: Can a CEO motivate employees without their awareness?. *Journal of Business and Psychology*, 34, 791–802. More broadly, see Latham, G. P., Stajkovic, A. D., & Locke, E. A. (2010). The relevance and viability of subconscious goals in the workplace. *Journal of Management*, 36(1), 234–255.
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  - 12 Miner, J. B. (2003). The rated importance, scientific validity, and practical usefulness of organizational behavior theories: A quantitative review. *Academy of Management Learning & Education*, 2(3), 250–268.
  - 13 See p. 21 in Chartrand, T. L. & Bargh, J. A. (2002). Nonconscious motivations: Their activation, operation, and consequences. In A. Tesser, D. A. Stapel, & J. V. Wood (Eds), *Self and motivation: Emerging psychological perspectives* (pp. 13–41). American Psychological Association.
  - 14 See footnote 1 above.
  - 15 Stajkovic, A. D., Locke, E. A., & Blair, E. S. (2006). A first examination of the relationships between primed subconscious goals, assigned conscious goals, and task performance. *Journal of Applied Psychology*, 91(5), 1172–1180.
  - 16 Stajkovic, A. D., Latham, G. P., Sergent, K., & Peterson, S. J. (2019). Prime and performance: Can a CEO motivate employees without their awareness?. *Journal of Business and Psychology*, 34, 791–802.
  - 17 Shantz, A., & Latham, G. P. (2009). An exploratory field experiment of the effect of subconscious and conscious goals on employee performance. *Organizational Behavior and Human Decision Processes*, 109(1), 9–17.
  - 18 Latham, G. P., Brcic, J., & Steinhauer, A. (2017). Toward an integration of goal setting theory and the automaticity model. *Applied Psychology*, 66(1), 25–48.



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**PART 4**

Epilogue



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# 10

## ALTERNATIVE EXPLANATIONS, FUTURE RESEARCH, AND CONCLUSION

Analyzing and synthesizing topics and approaches presented in this book offer a contribution that could be instrumental across industries and organizations. This is not to say that our conceptualizations do not have alternative explanations. Thus, as in other academic work, we discuss several boundary conditions.

### **Do We Need Psychology, or Can Economics Address These Problems?**

Psychology is a remote corner of knowledge for many executives, as it is, ostensibly, still not a solidified part of traditional business education. Earlier, we discussed how economics-based, traditional ways for organizations to achieve competitive advantages have been leapfrogged by time when it comes to cognitive overload and its consequences for employees' mental health. The theoretical base of economics, although valuable in other domains of business functioning, is mostly tangential in helping us understand, predict, and practically address the mounting employee cognitive overload and psychological distress that has contributed to a workplace that calls into question human sustainability in its current state. We believe that psychology is needed to tackle these constructs and relationships systematically.

Further, the emphasis in economics on the average ignores critical individual differences. Many economic estimates represent averages never found in nature. This reminds us of a joke we shared earlier in the book regarding the statistician who drowned in a river that was only two feet deep, on average. This vividly illustrates the pitfall of ignoring variance. Economists will readily



mention that humankind has witnessed advancements made possible by lust for money. Although recognizing the general validity of that statement, is it not equally important to ask if humans are also happier individually? What does it do for the individual if their affluent neighborhood is happy on average if they are miserable, and so is their family because of it?

Psychologists will readily ask, what is the point of working harder or investing more time, energy, and cognitive processing into our work, if it does not lead to greater happiness, let alone if it leads to personal (and family by contagion) misery caused by mental anguish from work?

### **Is Human Sustainability at Work Competing with Environmental Concerns?**

A sustainable workplace from a psychological angle is as critical as environmental sustainability efforts. In building a case for its importance, we do not rely on the religious ideologies of high priests. Instead, we presented a theory-driven approach to the work aspect of human sustainability and supported it with scientific evidence. This approach could irritate exclusive supporters of environmental sustainability, especially if it is misperceived as competing for “their” resources and public attention. Be that as it may, we hope this book will be informative and relevant to many potential audiences, including scholars, managers, and broader readers interested in the intersection of people and work in contemporary organizations.

### **The Hunter-Gatherer Mind**

Probably the hardest pill to swallow is that the human mind is at the developmental stage of the hunter-gatherer. Even more problematic is squaring that with the complexity of modern life. How can the same brain machinery, developed for one-day-long perspectives filled with habits, handle an unpredictable hustle-and-bustle of contemporary work and life? The scientific literature is unequivocal on this point, and we hope our historical perspective brought it to life.

Agriculture was perhaps the most colorful period. It introduced drastic life changes, many of those favorable, such as stable food supply and permanent housing. However, when farmers realized that they were not born with saddles on their backs, the consequences were damages in forms of social stratification and moral aberrations (e.g., slavery). This led to a pent-up frustration from witnessing daily inequalities, which then fell on capitalism to deal with.

Capitalism lifted many boats with economic growth. This contributed to the development of society. The American and French revolutions put an end, for all practical purposes, to any meaningful power of hereditary feudal aristocracies, although it took a while to materialize. Early capitalism,

though, exasperated social divisions created during agriculture, and modern capitalism created an unforgiving global competition that shows no signs of abating. Today, the relationship between workers and organizations is in need of repair. Organizations are effectively hurting their workforce and undermining the bottom line by contributing to unsustainable mental health outcomes of people, resulting in not only personal losses for those afflicted, but organizational costs of lost productivity. These are not merely ideological statements, they are simply empirical facts assembled from multiple sources over time and across cultures.

### Why So Much Emphasis on Theory Guidance?

We assumed an agreement among academic readers that theory should guide future efforts toward human sustainability at work. Because this necessity might not be as clear to all general readers, further clarifications as to why theory is the best practical guide to the vagaries of human behavior are presented below, offering a primer on the role of theory in social sciences.

The assessments employees make about their cognitive overload can be difficult to discern because cognitive load has many predictors and correlates. Theory-driven reasoning and research are essential to comprehensively understand the sources and implications of this variation in organizational contexts. Theories help to elucidate the antecedents, processes, and consequences of overload, enabling informed decision-making and subsequent adaptation in the workplace. Folk pundits frequently overlook the importance of theory and scientific research (c.f., consulting surveys or industry-funded ‘research’), focusing on anecdotal evidence or urban myths. Relying on surface descriptions found in the torrents of popular press can be misleading.

Here is how relying on social science theory differs and offers more reliable conclusions.

To start with drawing a contrast, natural science theories study the laws of nature – often presented as definitive statements. For instance, Newton’s theory of motion and gravitation posits that the gravitational pull decreases as the inverse square of the distance between two objects. This law applies to distances as small as fifty-six thousandths of a millimeter. The consistency of natural laws, such as the behavior of hydrogen atoms or gravitational forces, is indisputable. In mathematics, axioms are considered unchanging, except for errors.

Murray Gell-Mann, a Nobel Prize-winning physicist, humorously posited that studying physics would be hard if particles could talk. This underscores the contrast between the certainty of natural sciences, which deal with measurable and precisely formulated variables, and the complexity of social sciences, which grapple with the nuances of human thought and behavior.

Although humans are part of the material world, they possess unique qualities that particles, such as atoms and axioms do not have, such as talking, talking back, arguing, agreeing, feeling, believing, and acting randomly. These distinctively human characteristics make behavior more intricate to decipher, especially at work. Psychological theories serve as tools for understanding, predicting, and changing human behavior. They operate under the assumption that human behavior is not arbitrary; instead, systematic approaches to understanding it exist.

Insights into human behavior can be derived from various sources. Psychological theories stipulate and define antecedents, mediating processes, consequences, and moderating boundary conditions of the phenomenon studied. Theories are given labels that reflect their underlying conceptual premises for ease of communication. Numerous theories have been proposed to explain human functioning. The causal processes theories formulate are consequential for both conceptual and practical reasons. What theorists believe shapes their future research questions and what is left unaddressed. As conceptions of human behavior gain empirical support, they impact whether practical efforts directed at personal and social change are oriented toward psychological, social, or psycho-social factors.

For example, consider deciding what career goals to pursue (e.g., working long hours) or avoid (e.g., seek opportunities elsewhere). In simplified terms, psychological theory can guide thought and action as follows. During the forethought stage of cognitive processing, individuals consider various models of influence, contemplate relevant variables, and anticipate relationships among them to predict future outcomes. If anticipated outcomes are deemed satisfactory, individuals cognitively bring the future into the present and use it to guide their behavior. If not, they explore other options. To help sift through alternatives, theories as organizing models are helpful tools for navigating the numerous variables affecting behavior by illustrating our understanding of how variables relate and how behavior progresses. These theoretical models appear visually as clusters of boxes and arrows, often reported in academic papers.

Human behavior can unfold without prospective thinking, but we advise against it. As philosopher Alfred N. Whitehead noted, the purpose of thinking is to allow our thoughts to perish rather than ourselves. In other words, it is evolutionarily advantageous to contemplate our actions before placing ourselves in precarious situations, and having established models of thought and action to consider helps. Otherwise, life will be more challenging than it should be.

For instance, if people acted randomly without heeding situational cues (e.g., crossing the street without considering the traffic light), the consequences could be too hazardous to sustain such behavior. Similarly, if individuals had to experience painful situations to learn that they hurt, the cost of learning would be prohibitively high, not to mention unnecessary.

Most lessons can be learned vicariously instead of through painful trial and error. For those who overlook the caution against *reductio ad absurdum* (Latin for “reduction to absurdity”), it’s important to remember that continually breaking things down into smaller components can lead to a losing proposition. According to this logic, everything is fundamentally different; no two situations are identical, and thus, there can be no generalizations of behavior. However, life would be exhausting if we had to contemplate our actions from scratch in every situation. By treating each subject, object, and situation as exclusive to the past, we preclude knowledge transfer from educational pursuits or past encounters. As Confucius sagely observed, “A common man marvels at uncommon things; a wise man marvels at the commonplace.” It is not the random wonders but the discovery of systematic variance that propels human thinking and development forward.

Some individuals believe they have all the answers and, therefore, psychological theories are unnecessary. After all, you and I behave in some manner or another daily. Technically, one could argue this qualifies all of us as human behavioral experts. Yet, this line of reasoning is likely to result in such believers encountering setbacks because they are unaware of the extent of their knowledge gaps. The downstream consequence of this misconception is that problems remain unaddressed because they go unrecognized. Furthermore, if everyone in a group shares the same answers, it could imply that the question being discussed is relatively simple (“Where is Paris?”), that there are external pressures enforcing conformity (as in the Soviet Union), or that the group is composed of cognitive misers. As George Orwell noted, the more a group drifts into cognitive conformity, the greater its dislike for dissenting voices. We can only hope this will not become the future of humanity.

We emphasize that, in a complex world of organizations, relying on idiosyncratic whims is less likely to be parsimonious and successful compared with using organizing models of thought or theories as valuable tools for navigating the convolutions of the social realm. Cognitive load has many antecedents. It can affect employees differently, resulting in various psychological distress outcomes. A theory-driven approach to illuminating multifaceted problems is a reliable barrier against incomplete information or false premises. A-theoretical proclamations or anecdotal evidence, which do not draw upon accumulated and incrementally built knowledge, should not be considered serious attempts at thinking about complex social or organizational problems. These are typically shallow attempts at repackaging common sensical truisms (e.g., trust matters, be yourself) for social media purposes or sales. Otherwise, why not use theory-driven and rigorously tested knowledge? Which approach would you bet on if you had to?

## Humanism

This section in the book could be reframed as follows: what else could put a dent in the importance of *capital* in *capitalism*, given its historical dominance and power? Real (or fake) second coming of Christ would do it, but uncertainty is associated with that timing. Societies can try to introduce social credit currency, but the chances of it succeeding are slim for the same reasons communism failed. China is currently trying out a social credit system, installing cameras to observe behavior and use facial recognition software and a centralized database to rank citizens based on behaviors, such as shopping, smoking, posting fake news, or playing video games for too long. But how the algorithms calculate your “worthiness” is secret.<sup>1</sup>

What else can compete with capital if not the dominant species on this Earth: humans. Thus, going forward, we need to find ways to gauge the capital successes by adding a denominator that considers human psychological concerns. We welcome dialogues of other factors that can legitimately and plausibly compete with capital, short of dictatorships.

## Modifications of Capitalism Toward Humanism

We pulled the curtain back on contested discussions of capitalism versus other systems and discussed why some modifications of the former toward humanism are warranted. Suggestions from directed capitalism, also called market socialism, have received the least attention because this system is more complex to generalize. Some forms of it are based on a one-party system that is incompatible with most democratic principles. The idea underpinning directed capitalism – that the state can plan and coordinate the economic system toward some meaningful goals for the nation – is not baseless conceptually. If anything, it makes intuitive sense to have a “central nervous system” to coordinate the body’s functioning, as the human biological system does. The problem here is not theoretical but computational.

In any given society, let alone the size of China or India, there is simply too much to process. Having all that processing centralized in one place by the state can be overwhelming, insufficient, and inaccurate. In market capitalism, such as in the U.S., information processing is diffused among market participants, and eventually, “the invisible hand of the market” comes to a solution that “works.” For example, in the former Soviet Union, scientists could not process the massive data to figure out bread production – who would create it, for what, and how much for each according to their needs at any given store – yet they produced sophisticated ballistic missiles.

Meanwhile, in a free-market system, everyone can produce what they want, including bread. They can charge any price they want, and customers can decide whether to buy bread in one store or the other or to buy something else instead. Eventually, demand and free choices regulate prices and

supply. It is an ingenious way to use the computational power of all involved in the market to figure out prices, e.g., of bread and its supply, with no information processing from the state needed.

An interesting twist for directed capitalism would be if it makes a comeback, given the advent of super-computing in today's digital age. Markets are efficient but imperfect with friction. Could exact super-computing by artificial intelligence (AI) avoid the imperfections of the market? Future AI advances could, ostensibly, compute the exact needs for the precise types of bread of all participants in the market (provided they joined the system and volunteered their spending and purchasing habits). If this is already in the works for individualized medicine and pharmaceuticals, why not for other services and products? The critical question would be whether we want to receive exact information at the cost of participating in the system and volunteering personal (spending) information in the first place. This information could even be downloaded to our car, and the self-driving system could take us to the bread store with the best deal, either based on our prior habits or some other pre-specified criteria. If we also participate in the self-driving car system guided by AI, there would be no accidents on our way to buy bread. The reductions in human cognitive processing in these scenarios would be arguably substantial.

### **Ethics of Care Leadership**

Although care is a virtue, it can have drawbacks if used excessively. An extreme emphasis on care could undermine the volition of those cared for, especially if the care receiver is provided with more care than desired or needed. There are degrees of care and a fine psychological line between overindulgent care and the perception of pity. Thus, influential leaders strike a balance between inadvertently conveying pity rather than respect for the dignity of those receiving the care. This is why the framework is ethics of care rather than just care.

Having extended this warning, we believe that some companies are providing care-based leadership where frequent performance feedback is encouraged, employees are acknowledged for organizational citizenship behaviors (non-required behaviors in organizations that are widely beneficial but not compensated), and management relinquishes reasonable control to employees to determine the best approach to their work. Support structures help employees not to fall through the cracks. Job security and affordable health insurance help relieve stress and create conditions conducive to thriving at work. For example, Unilever embodies the attributes of a sustainable workplace by promoting, protecting, and prioritizing employee health and well-being. They empower employees through education, address stigmas around mental health, encourage positive role modeling from

leaders, and provide access to wellness tools and support systems. Unilever has made employee wellbeing the cornerstone of its benefits offering.

On glassdoor.com, employees have commented about the “good pay,” “flexible culture,” “high focus on purpose,” “autonomy,” “good health program,” “great employee benefits,” “opportunity for progress” and “people orientation.” The Head of HR, Leena Nair, told *TIME*: “...this is a moment of reinvention...We have ... started a program where people who want to work for less months can do so and get flexibility and security...we have a model where people can take a sabbatical and Unilever pays their salary... we give options to employees as to where and when they work.” These practices seem like good examples for other companies to emulate.

### **Individual Responses to Cognitive Overload at Work**

AI-brain fusion is promising but filled with unresolved moral and regulatory issues. For now, we have insufficient information upon which we can predict where this merger will go, let alone how the application of it should look in organizations. We are not necessarily against upgrading the human species by AI; we are just anxious about the potential nightmare scenarios that might arise until important issues are thought through at a societal level. Cognitive automation’s central premise – that the future of effective organization is in less attention, not more – is not the easiest to process. It requires a notable background in the literature, and its road to organizational applications might be long and windy.

Another angle from which stress at work could be addressed is individual-level recovery approaches. We have not tackled this approach for several reasons. First, this literature is relatively vast and could fill a separate book. It reports a host of findings supporting various interventions and approaches toward reducing stress and related mental health problems attributed to work. For example, research has recently re-taken stock of burnout<sup>2</sup>,<sup>3</sup> stress, well-being,<sup>4</sup> and effective happiness strategies,<sup>5</sup> including work on recovery from work (stress) during non-work hours.<sup>6</sup> Relatedly, research has also been increasingly documenting the beneficial effect of sleep on essential outcomes<sup>7</sup>. For example, a study by Černe and colleagues (2023) found that work intensity influences knowledge workers’ creativity either positively through a challenge stress response or negatively through a hindrance stress reaction, thus forming a dual-path effect and that sleep quality is an essential moderator in this mediated relationship. Daily, subjective perceptions of sleep tended to be more critical in coping with work-intensity demands, while objectively measured sleep indicators proved to matter cumulatively across multiple nights. Further delving into recovery from sleep could prove valuable in examining a plethora of organizationally relevant outcomes, such as performance across various settings, helping and collaborative behavior, and well-being.

Second, the academic literature on job demands, various mental health criteria, and factors or resources to deal with demands has long been a tradition in psychology and organizational studies. Two popular conceptualizations for studying these links have been the following models. Karasek published in 1979<sup>8</sup> what is known as the job demands-control (JD-C) model, postulating that job demands are more effectively handled if employees have or perceive more control over job demands. This model has generated a volume of research and replications over the years.<sup>9</sup> The Karasek model has been extended in the form of the job-demands-resources (JD-R) model,<sup>10</sup> which, in short, postulates that it is not just control but other resources that are important for handling job demands. Put simply, the more resources there are to address job demands, the better.

Perhaps owing to the large volume of the research, these two models seem to delineate their incremental contributions unclearly, which could potentially hamper future research and application. In particular, it is not always clear how new studies in this line of inquiry draw upon prior research to build cumulative knowledge in ways that have not been previously considered (potentially inflating Type I error). It appears that many, not all, variables included in the JD-R model have been tested before (see above). A more internally coherent story might specify the incremental theoretical contribution of the JD-R model over its predecessor the JD-C model. Aside from having more job resources, what are the psychological processes through which the JD-R model is more helpful for handling job demands? This could help clarify future research questions by focusing on new and unforeseen ways of pushing the boundaries of knowledge in this important field of study. It would also clarify the application.

The issue here is JD-R model parsimony and precise knowledge accumulation. Over-specification of models, with many possible links among variables, can hinder the accumulation of specific knowledge, owing to a lack of parsimony. Although a fully saturated model would render a perfect statistical fit, it may not be the most suitable approach for theory building. A more refined strategy would involve using theory to guide model specification with fewer links while accounting for a comparable variance. This approach adheres to the principle of parsimony or Occam's Razor, which posits that the simplest explanation fitting the data is often the most accurate. Researchers can ensure that theories are not over-specified by seeking parsimony in model specification. This allows for ongoing refinement and testing, ultimately fostering a deeper comprehension of the underlying processes affecting behavior. In addition to over-specification, many models are also under-specified. For instance, many models of job demands and stress at work leave out a critical cognitive variable – self-efficacy.

Self-efficacy is how strongly one believes that s/he can successfully perform specific tasks in a given context.<sup>11</sup> From infancy through the lifespan, self-efficacy helps to account for such diverse phenomena as cognitive



functioning and coping in education, performance in innumerable occupational roles, development of career and vocational trajectories, pro-social behaviors in adolescents and adults, coaching and competitive strivings in sport, moral (mis)conduct, global interdependencies, and varied cultural influences, behavioral adaptation to advanced technology, and initiation and sustainability of disease-prevention and health-promotion behaviors. These effects span into the far regions of the world.<sup>12</sup>

A few early studies specifically examined the role of self-efficacy in job control and coping with stressors<sup>13</sup>, as well as collective efficacy at the group level of analysis,<sup>14</sup> and we urge future research to reconsider the role of self-efficacy in contributing to a more sustainable workplace and understanding of JD-R based-models. Because self-efficacy is a malleable belief of how well one can successfully handle a given task in a specific prospect, this self-referent thought is central in the transitive phase between experience and behavior. Most importantly, even if people have all the resources needed to handle job demands and succeed, they will forsake most pursuits if they doubt they can. Those with high self-efficacy are more likely than those with low self-efficacy to initiate effort and sustain persistence in the transgressions of life and work. This belief in one's capabilities to forge ahead has transformative power, and it is unclear how employees successfully transform resources toward resolving job demands if they doubt they can do it.

Skill, motivation, and resources are necessary to perform successfully, but alone they are insufficient. It has been established that work concerns are typically linked to a perceived lack of self-efficacy to handle job demands rather than the objective difficulty of executing such demands.<sup>15</sup> We call for more research to examine what resources would help employees to successfully handle challenging job demands when self-efficacy is low. Doubt is a psychological bondage that keeps performance at bay, regardless of resources; self-efficacy is a psychological mechanism that unlocks potential. Thus, models that specify factors to explain distress at work need to also consider prior research on perceived self-efficacy to handle tasks/resources.

Fifth, there are inconsistencies that need further research scrutiny. On the one hand, the evidence presented in Chapter 4 of this work, coupled with that offered by Jeff Pfeffer in his recent book,<sup>16</sup> appears to indicate mounting levels of stress, other mental-health alignments, and suicides attributed to work. On the other hand, theories, such as JD-R, claim that it "provides for a more complete and comprehensive understanding of employee well-being and performance."<sup>17</sup> Although these authors do not claim that, no theory, on its own, could realistically provide encompassing understanding of a complex phenomenon. Instead, that scholars across disciplines will need to work together to discover solutions at the intersections of varied fields and levels of analysis if we are to make progress on making work a more sustainable endeavor for everyone.

## Conclusion

Addressing cognitive overload at work and its mounting negative psychological consequences is a complex problem. A complicated problem is defined as a phenomenon(a) with multiple variables connected with curvilinear and recursive paths, where multiple mediators and moderators are relevant, and the nature of relationships, sequencing of the links, and time dynamics can vary. Simple solutions for complex problems are almost always wrong. How do we answer questions such as those posed in Chapter 8 – are there limits to transcending our limits – by a truism? Although we respect common sense, some prospective thinking is needed to address complex problems. Anyone who claims to have all the solutions, or “five fixes” to employee well-being at work, should be listened to with caution. Instead, we approached the issues from multiple theoretical perspectives, weaving arguments through historical, system, organizational, and individual levels of analyses and multiple conceptual lenses through which we aligned them into an internally coherent story. Striving for human sustainability at work is a long game that can hardly be won if the macro/meso/micro factors work at cross-purposes or ignore each other.

The value of the book (or any academic article) is earned by its content; that is, the importance of the topic, “truth” (based on theory and empirical evidence) being communicated, and the implications for understanding, predicting, and managing the phenomena under study. The importance of the topic can be measured by how “much water it displaces.” The truth about the topic being communicated means that reliable presentation is valuable because the issue might have been recognized in practice at high personal/organizational cost, as with cognitive overload and psychological distress. This is because trial and error explorations are costly, and moral constraints preclude experimental manipulation of cognitive overload of workers to cause and measure their psychological distress. Our explanations and views herein were theory-driven, evidence-based with data from multiple sources, and encompassed multifaceted perspectives, interests, and levels of analysis. We believe a topic can be better understood and predicted only after such a multi-layered cogitating exercise.

The implications and suggestions for practical modifications we offered serve more as a guide to thinking about this topic than ready-made practical solutions that can be used tomorrow. It is unclear if the latter set of approaches can untangle the complexity of the issues covered in the economic system, organizations, and individuals if they work at cross purposes. Unpacking a manifold web of recursive influences is necessary before specific, individual-level recommendations can be reliably offered. That is an important take-home message and perhaps a topic of another book on more micro approaches to human sustainability at work.

## Notes

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# INDEX

Note: Locators followed by “n” indicate endnotes.

- accountability 39, 126
- accumulated capital 20
- active labor market policies 84
- adaptation 52, 73, 91, 95; behavioral 156; intellectual 77; Rapid change and 95; to technological change and globalization 99
- advantage 22; competitive 57, 58, 138, 139, 147
- adverse effects 53, 70
- advocate for mental health 112
- aggressive corporate culture 45
- aging 91, 121, 124
- Agricultural Chamber 89
- agricultural diets 23
- agricultural practices 23
- agriculture 17–18, 20–24, 31, 148; cognitively process 21; cost of human suffering 24; deliver 21; economics 24; elites of 23; food quantities 24; high-demand products 24; religion 23; shift in lifestyles 23
- AI-brain fusion 121
- algorithm 8, 43, 71, 129, 152
- Amazon 45
- American Dream 29, 85
- American liberal capitalism 85
- analytical tools 137
- anthropocentric uniqueness 73
- anthropocentrism 73
- anticipation 19
- antiquity 36
- antitrust laws 85
- anxiety 2, 4, 8, 45, 51–62; defined 3; job search 3; manic 4; performance 3; social 3
- a posteriori* 64
- apprenticeship program 84
- a priori* 64
- Arderm, Jacinda 108
- artificial intelligence (AI) 29, 57, 120, 121, 123, 128, 135, 153; investment, price, unequal access, and social divisions 125; more far-fetched possibilities 123–124; privacy concerns 124–125
- Ashoka 111
- assessments 149
- attentional capacity 3, 9, 73
- attentional demands 6
- attentional processing 1–13, 138, 139; of information and measuring cognitive overload 5–9; limitations of 8; Stroop test 5; subconscious processing 5
- attentional processing capacity (APC) 3, 8, 9, 20–22, 137
- attentional processing demands (APD) 3, 9, 20, 22, 137
- attentional resources 5

- Augustus, Octavian 35  
 Australia, liberal capitalism in 86  
 Austria, coordinated capitalism in 89  
 authority 22, 23, 36  
 Automated Insights 123  
 automated processing 20  
 automobile industry 27  
 automotive model 140  
 autonomous 5, 129  
 autonomy 45, 56, 154; balancing  
     consensus with individual 92; limited  
     53; *versus* coercion  
 awareness 68, 112, 122, 130, 136, 140;  
     employee 142; explicit 68; public 96  
  
 balanced work ethic environment 97  
 banking 93, 118n29  
 barriers 40, 71; leadership, to entry for  
     38–39  
 beliefs 8, 39, 73, 124  
 benefits 26, 68, 110, 125, 124;  
     capitalism 76; social, sharing for profit  
     in organizations 126–127; societal 66;  
     unemployment 85, 90  
 biases 9  
 Big books 77  
 Bioconservatism 129, 130  
 Bioliberalism 129, 130  
 biology 107, 130  
 biotechnology 121, 126, 129  
 Black Lives Matter (BLM) 109  
 Bloomberg, Michael 44  
 bottom-up priming 140  
 boundary conditions 65, 147, 150  
 brain's volume 22  
 British economy 85  
 Brockovich, Erin 111  
 budgets 54, 71  
 bureaucracy 22, 43, 91  
 bureaucratic decision-making 71  
 burnout 4, 53, 55, 99  
 business 84; case 63; concerns 69–72;  
     outcomes 41  
  
 Caesar, Julius 35  
 Cambridge Mobile Telematics (CMT) 6  
 capacity 2, 4, 8, 22, 25–27; cognitive 44,  
     56, 87; functional 10  
 capitalism 25, 37, 66, 69, 70, 72, 83,  
     148, 149; boost the best 95–97;  
     coordinated 84, 88–92; critique of 69;  
     directed 83–102, 92–95; juxtaposed  
     approach of balancing achievement  
     and support 97–98; liberal 84–88;  
     modifications, to humanism 152–153;  
     moral and science as guides to  
     modified 75–78  
 career development 88  
 care *versus* harm 67  
 caring leaders 112  
 Černe 154  
 challenge 77, 83, 87, 91, 94, 100;  
     scientific method 77  
 Chamber of Commerce 89  
 Chamber of Labor 89  
 changes 19, 20, 31; socioeconomic 28  
 ChatGPT 128  
 childhood 35, 70, 90, 126  
 China: directed capitalism in 93;  
     paternalistic approach 84; social credit  
     system 152; work-attributed suicides  
     in 56  
 Chinese Communist Party (CCP) 93  
 Christianity 66  
 chunking 8  
 civilization: growth 17  
 Civil War 27  
 climate change 9, 91  
 cognitive attention deficiency 31  
 cognitive automation 135–144;  
     conscious and primed goals in  
     organizations 138–141; conscious to  
     primed goals 139–140; defined 135;  
     models of goal priming 140–141;  
     practical implications 142  
 cognitive capacity 44, 87  
 cognitive demands 26–28, 45, 87, 91, 95  
 cognitive engagement 95  
 cognitive load 2, 5, 10, 17–33, 44, 45,  
     52, 136, 149, 151; agriculture 20–24;  
     epochs of human life and work  
     17–33; goal priming alleviate 141;  
     hunter-gatherer 18–19;  
     industrialization 24–31; real-world  
     test of 6; states of 3  
 Cognitive Load Theory 141  
 cognitive overload 10, 22, 24;  
     attentional processing of information  
     and measuring 5–9; impact of 53;  
     physiological cost of 4; psychological  
     cost of 4, 10; psychological distress  
     52; Stroop test 5  
 cognitive processing 2, 5, 21–23, 26, 30,  
     120, 148; capacity 9  
 cognitive psychology 3, 5, 36, 38,  
     73, 136

- cognitive resources 3, 73  
 cognitive selection 8  
 Cold War 1  
 collaboration 29, 44, 84, 92, 110;  
   voluntary 108  
 commodity 71  
 commoners 111  
 communication 9, 29, 113, 150;  
   technology 29; tools 45  
 communism 71, 72, 83, 152  
 community-based care 54  
 community care 69  
 competence 23  
 competitive economy 90  
 competitiveness 90, 91  
 competitive pricing 26  
 complexity 20, 27, 28, 31, 37, 44, 57,  
   68, 71, 72, 74, 91, 139, 149;  
   economic 21; of interactions 22;  
   interpretation 22; regulatory  
   environments 91; of social  
   maneuvering 23  
*Comprehensive Mental Health Action  
 Plan 2013–2030* 54  
 comprehensive welfare programs 84  
 conceptual framework 63, 64  
 confectionery sector 27  
 confirmation bias 8  
 conflict 37, 68, 70; external 45; internal  
   45; work-home 54–55; work-life 2;  
   workplace 91  
 Confucian principles 84  
 conscientiousness 127  
 conscious cognition 5  
 consciousness 7, 68, 135, 140  
 consensus-building 99  
 consensus-driven negotiations 88  
 consequential phenomenon 10  
 constructive feedback 56  
 contemporary organizations,  
   psychological cost of working in  
   51–62  
 Continuums of Care 109  
 Cook, Tim 125  
 coordinated capitalism 84, 88–92, 100;  
   balancing consensus with individual  
   autonomy 92; complex regulatory  
   environments 91; policy formulation  
   and regulation 98; risk aversion and  
   resistance to change 91; in  
   Scandinavian 89–90; shared  
   characteristics and distinctions of  
   90–92; strategic goal-setting 98; in  
   Western European 89  
 corporate social responsibility (CSR) 110  
 corporations, cost of failure for 41–42  
 cost 26; healthcare 127; of human  
   suffering 24; of investments 125; of  
   learning 150; marginal 43;  
   psychological 9; to reaction time 5  
 cost of failure, for executives and  
   corporations 41–42  
 cost of production 71  
 cottage industry 34–48  
 count-the-coin approach 68  
 courtship 23  
 COVID-19 pandemic 53, 108  
 creativity 35, 36–37  
 criminal law 39  
 criticism 42; of humanism perspective 77  
 cultivating an empathetic organizational  
   climate 113  
 cultural shifts 28  
 culture 9, 84, 86, 88, 90, 99, 146;  
   aggressive corporate 45  
 cut-throat corporate cultures 2
- Darwin 37, 46  
 data collection 40  
 data processing 71  
 decision-making 26, 40, 63, 67, 90,  
   91, 96, 97, 110, 137, 149;  
   bureaucratic 71  
 Deming, Edward 57  
 democracy 83  
 democratic politics 94  
 demographic changes 91  
 depression 2, 8, 27, 51–62; manic 4  
 development 92, 151, 156; economic  
   70, 97; of employees in organizations  
   40; export-led 93; policy 10  
 developmental state 93  
 development curve 21  
 dictatorship 72  
 dietary diversity 23  
 digital age 8  
 digital communication technologies 88  
 diplomacy 114  
 directed capitalism 83–102, 92–95, 96,  
   97, 100, 153; in China 93; high-  
   pressure work environments 95; in  
   India 93–94; rapid change and  
   adaptation 95; in South Korea 93;  
   standard features and challenges of

- 94–95; strategic goal-setting 98; top-down hierarchical structures 94
- direct leadership 35
- discrepancy 40
- distribution channels 43
- diversity 9, 115
- diversity in leadership 109
- dominant economic system 69
- Dostoyevsky 74
- double-blind journals 39, 40
- double-masked peer-review process 40
- dynamic economic environment 98
- Ebbers, Bernie 41
- economy 25, 29, 31, 76, 83; activity 65, 71; competitive 90; complexity 21; count-the-coin approach 68; economic cost 54; depression 27; development 70, 97; dynamic 90; equity 71; growth 69, 70, 71, 75, 85, 93, 94, 148; health 109; implications 26; labor 51; management 86; national 88; pragmatism 65; pressures 91; principles 68, 98; recessions 27; reforms 93; security 67; stability 65; trends 27; wealth 21
- Edison, Thomas 26
- effective leaders 35
- effective leadership 38
- efficiency 26, 37, 43, 57, 83
- Einstein 37
- emotional labor 23
- emotionally intelligent 41
- emotional needs 68
- emotions 34, 35, 38, 41
- empathy 69, 109, 112–113
- empirical evidence 63, 64
- employee 2, 31, 34–48, 84, 147, 154; balancing consensus with individual autonomy 92; cognitive capacity 44; comprehensive welfare programs 84; in contemporary organizations 30; health crisis 52; idleness 51; high-pressure work environments 95; incompetent 51; intellectual sluggishness 51; psychological cost, of working in contemporary organizations 51–62; psychological health 10; psychological well-being 75; satisfaction 40; skills 36; stress and mental burden 96; well-being 87
- employment 126
- empowering leaders 115–116
- energy 19
- energy sector 25
- Engels 95, 96
- Enlightenment 131
- entrepreneurial risk-taking 97
- entrepreneurship 54, 86, 99
- environmental protection 91, 108
- Environmental Protection Agency 2
- environmental protections 85
- environmental sustainability 9, 10, 11, 94, 148
- environments: changes 19; high-pressure work 95
- epidemic: work-attributed suicides 55–56
- epidemics 23
- equilibrium 3, 97
- equity 9, 72
- erosion of work–life balance 87–88
- ethics of care 103–104; defined 104
- Ethics of Care Leadership (ECL) 103–107, 153–154; care 112; cultural and historical examples 110–111; diplomacy 114; empathy 112–113; empowerment 115–116; for human sustainability at work 111–116; implications of gender distribution in valuing care for 107–111; inclusivity 114–115; private sector leadership 109–110; public leadership 108–109; support 113–114
- evolutionary 68, 69; adaption 73; psychology 11
- executives, cost of failure for 41–42
- existentialist philosophy 67–69
- experiences of humans 76
- explicit 68
- external conflicts 45
- factory-made heuristics 5
- failure of organizational leaders 41–45; cost of 41–42; escalation of commitment 42–43; leadership myths 43–44; uninformed leadership practices 44–45
- fairness *versus* cheating 67
- fallacy 39
- Family and Medical Leave Act 86
- Fear of Missing Out (FOMO) 127–128
- Federal Trade Commission 39
- feedback loop: negative 35, 44; positive 44
- female leadership advantage (FLA) 103–119



- feminine leadership 105
- “fight or flight” response 3, 53
- financial outcomes 63
- financial performance 110
- financial stability 66
- financial wealth, work for 52
- Finch, Atticus 111
- Fiorina, Carly 45
- fit-misfit 19
- Five-Year Plans 93
- flexicurity system 90
- followers 35
- Food and Drug Administration 122
- food quality 38
- food quantities 24
- food sources 23
- food supply 10, 20, 24, 31, 148
- Ford, Henry 26
- formal leadership 35, 38
- forward-thinking 100
- France, coordinated capitalism in 89
- Freedman, Milton 77
- free markets 71, 72, 86, 88, 152
- French Revolution 22
- Freud 37
- Fuld, Richard 41
  
- Gallop 53
- Gandhi 35, 37
- Gell-Mann, Murray 149
- gender 104; equality 90; inequality 11
- gender distribution in valuing care
  - 105–107; differences arising from
    - biology 107; for ECL 107–111;
    - result of socialization, differences as 105–106
- gene mutations 20
- General Electric 26
- generalizability 38, 40, 64
- General Motors (GM) 41, 44
- genetic flexibility, logic of 19
- Genetic Information Nondiscrimination Act (GINA) 126
- genetics 19
- geocentric worldview 73
- German, coordinated capitalism
  - in 89
- global economy 91
- globalization 99
- global market leadership 84
- global markets 71
- goal-behavior 136, 140, 141
- goal contagion model 140
- goal priming 142; alleviate cognitive
  - load 141; models of 140–141
- goal-setting 45, 136; strategic 98
- goal-setting theory 139; of task
  - performance 64
- government 84
- government agencies 2
- Great Depression 28
- Green, Robert 41
- green technologies 91
- growth 45, 70, 93; capitalism 77;
  - economic 69, 70, 71, 75, 85, 93, 94, 148
  
- Haidt, Jonathan 68
- half-truths 38
- halo effect 40
- hands-off approach 71
- harmonious social progress 43
- healing 4
- health and safety laws 96
- healthcare 86, 90
- health insurance 51; discrimination 126
- Health Insurance Portability and Accountability Act (HIPAA) 126
- health issues 23
- heliocentric system 73
- Hershey, Milton 27
- heuristics 20
- Hewlett-Packard 45
- Hilton 114
- holistic health 9
- Home Depot 42
- homicides 76
- homo sapiens* 120–122, 128
- Hsieh, Tony 40
- Huawei 84
- human behavior 68
- human capital 90
- human-centric work practices 83
- human-denominated approach 76
- human development, epochs in 17–33;
  - agricultural 17–18; hunter-gatherer 17; industrial 17
- human evolution 120
- human factor 24
- humanism 152; boundary condition of
  - 75–78; modifications of capitalism to 152–153
- human resources 9, 19
- human sustainability 1–13
- human sustainability at work 9–11, 13n23, 63–79, 83, 142; business

- concerns 69–72; challenge 11; competing with environmental concerns 148; defined 9; embracing ECL for 111–116; existentialist philosophy 67–69; focus on 10; framework 10; moral matrices 66–69; moral psychology 67–69; science 72–74
- hunter-gatherer 9, 17–19, 23; mind 148–149
- Hutchins, Robert Maynard 37
- IBM 122, 123
- Identities 21, 29, 120: social 21
- Identity Theory 129, 130
- impaired cognitive abilities 4
- income inequality 86, 96
- India 84; directed capitalism in 93–94
- indirect leadership 35
- individual differences 22
- individual responses to cognitive overload at work 154–156
- Industrial and Organizational Psychology 127
- industrial democracy 90
- industrialization 18, 24–31, 93; American approach to 25; deliver 25; early, in U.S. 25–28; identity 29–31; post-World War II 28–29
- industrial relations 88
- Industrial Revolution 18, 25, 27, 31
- inequality 11, 17, 71, 86, 93, 131
- informal leadership 35
- information processing 10, 52, 152
- innovation 31, 44, 71, 83, 85, 90, 91, 93, 96, 98, 99, 110, 131; medical 25; within supportive framework 99
- in-out 19
- intellectual sluggishness, employee 51
- internal conflicts 45
- intervention 64, 70
- intuition 20
- intuitive approaches 137
- investments: cost of 125; directs 93; in employee development 114
- issue 24; of balancing state control with markets 94; psychological 52; social 89
- James, William 7, 135
- Jefferson, Thomas 22
- Job, Steve 45
- job demands 155
- job demands-control (JDC) model 155
- job-demands-resources (JD-R) model 155, 156
- job insecurity 87
- jobs 27; advertisement 30; in manufacturing 29
- job satisfaction 39, 41, 53, 55, 88, 94, 110
- job search anxiety 3
- job security 91
- J. P. Morgan 26
- Judeo-Christian tradition 43
- Jung, Carl 69, 107, 128
- Kalanick, Travis 45
- Kant 68
- Karamazov 74
- Karasek, R. A., Jr. 155
- Kierkegaard, Søren 67
- King, Martin Luther Jr. 35
- KiwiBuild program 108
- Kozlowski, Dennis 41
- Kroc, Ray 28
- labor 17, 22, 71; economics 51; force 90; laws 98; metamorphosis of 120
- labor market 87, 90, 98; employee-friendly 98; policies 88, 90
- labor standards 85
- lack of concentration 4
- laissez-faire approach 83
- Lampert, Ed 41
- Lay, Ken 41
- leaders: ability 40; care 112; characterization 35; cognitive capacity 44; creativity of 37; failure of 38; female 110
- leadership 83; advisor 39; barriers to entry for 38–39; behavior 115; defined 34; direct 35; diversity in 109; effectiveness 38, 109, 111; experts 39; expert analysis 39–41; focus on 36; formal 35, 38; forms 35; gurus 39, 40; indirect 35; informal 35; key components 34; leaders, characterization 35; myths 43–44; organizational 34–48; practice 10; public leadership, as conduit to alignment 98–100; training and coaching 39; uninformed leadership practices 44–45
- leadership cottage industry, 34–48
- leadership failures 51

- learning 95, 114, 150; effectiveness 123; opportunities 56
- legal discourse 2
- legislative frameworks 2
- Lehman Brothers 41
- liberal capitalism 83, 84–88; in Australia 86; erosion of work–life balance 87–88; excessive work hours and intensity 87; innovation-driven ethos 97; innovation-driven spirit of 97; job insecurity 87; shared characteristics and distinctions of 86–88; strategic goal-setting 98; in United Kingdom 85–86; in United States 85
- License Raj 93
- logic, of genetic flexibility 19
- loyalty *versus* betrayal 67
- Machine Ethics 129, 130
- MacIntyre, A. C. 104
- macro-economic forces 29
- make-believe approaches 38
- management 23, 54, 86, 88, 104; decisions 89; economic 86; of globalization 87
- Management v. Leadership Authority 35
- managers 36; supply-chain 43; transect resources 36
- Mandela, Nelson 111
- manic anxiety 4
- manic depression 4
- marginal cost 43
- market-based approach 84–85
- market-based economic principles 88
- markets 19, 21, 24; demands 83, 90; fluctuations 71; free 71, 72; global 71
- market socialism 100
- Mars, Frank 27
- Marshall Plan 35
- Marx 95, 96
- Marxist economics 71
- materialism 70
- maternity policies 86
- Mayer, Marissa 44
- Mayo Clinic 11
- McDonald 28
- means-goal model 140
- mediators 39
- Medicare 85
- mental health 4, 51, 52, 95, 108, 147, 149, 153; advocate for 112; challenge 52; injuries 53; issues 53
- mental-health disorders 52
- mental models 20
- mentorship programs 115
- meso-organizational realities 29
- metamorphosis 120, 122
- method 40, 64; research 38; scientific 38, 73, 77
- micro-management 94, 95, 115
- microprocessors 25
- Microsoft 45
- microtargeting 124
- Mitbestimmung 89
- M&Ms 27
- mnemonic ‘hacks’ 8
- model: automotive 140; goal contagion 140; of goal priming 140–141; job demands-control (JDC) model 155; job-demands-resources (JD-R) model 155; liberal capitalist 88; means-goal 140
- mode of cognition 5
- moderate-to-serious impairments 52, 54
- modify humans 120–134; cause and effect 126; more far-fetched possibilities 123–124; privacy concerns 124–125; sharing in social benefits for profit in organizations 126–127; undeniable progress opportunities and progressive disagreement 121–122
- modify organizational leadership 103–119; Ethics of Care Leadership (ECL) 103–116; gender distribution in valuing care 105–107
- monopolies 26
- moral: enhancement 129, 130; as guides to modified capitalism 75–78; imperatives 65; norms 68; pragmatism 128
- morality 68, 74
- moral psychology 67–69, 75
- motherhood 107
- multidisciplinary approach 65
- multifaceted approach 65
- Murrie, Bruce 27
- muscle memory 141
- Musk, Elon 44
- muted value 37
- myths, leadership 43–44
- Nadella, Satya 45
- nanotechnology 121
- Nardelli, Bob 42
- Narrative Ethics 129, 130

- national economy 88
- National Health Service (NHS) 85
- National Safety Council 6
- nation-states 21
- natural laws 149
- natural selection 19
- negative feedback loop 35, 44
- negotiations 26, 91
- neuroscience research 136
- New Testament 37
- Newton's theory of motion 149
- New York Central Railroad system 26
- Nietzsche, Friedrich 66, 128
- non-growing economic resources 70
- no-nonsense leader 42
- non-profits 99
- non-work responsibilities 54
- Nordic Model 89
  
- Occupational Safety and Health Administration 2
- Old Testament 20, 37
- open-door policy 44
- operational efficiency 28, 41
- opportunities 22, 115; educational 58; for progress 154; training 84; undeniable progress 121–122
- organizational behavior research 140
- organizational citizenship behaviors 153
- organizational costs 149
- organizational culture 87, 113, 137
- organizational Ethics of Care Leadership (ECL) 103
- organizational leadership 34–48, 40; modify 103–119
- organizational strategy 64
- organizations 2, 30, 35, 39, 40, 43, 57, 142, 149; conscious and primed goals in 138–141; psychological cost, of working in contemporary organizations 51–62
- Orwell, George 95, 151
- outcomes 3, 24, 72, 110, 150, 151; business 41; financial 63; social learning process 106; of social learning process 106; work-related 138
  
- Paid Parental Leave Scheme 87
- pairs in-class education 84
- paradigm shift 75
- patent 26
- paternalistic approach 84
- paternity policies 86
  
- peer-reviewed journals 39, 40
- people orientation 154
- performance anxiety 3
- personality traits 127
- Pfeffer, Jeff 156
- physical effort 22
- physical health 4, 52, 99, 113
- physical overload 8
- physiological cost of cognitive overload 4
- physiological health, work for 52
- point-counterpoint approach 64
- polarization 22
- policies 88; development 10; economic 90; employee-friendly 110; formulation and regulation 98–99
- political trends 64
- positive feedback loop 34, 44
- Posthumanism 128, 129
- Post-World War II 85
- post-World War II industrialization 28–29
- power-driven leadership models 110
- price formation 71
- price insurance 127
- principles 65; of capitalism 75; of parsimony 155; of social justice 72
- private property 86
- private sector leadership 109–110
- problem-solving 29
- productivity 87, 100, 120, 127
- professional development 56
- profit 19, 26, 66, 71, 77, 87, 96
- profitability 63, 64, 69
- profit-making 130
- property 31; private 86; rights 21
- psychological consequences 58
- psychological cost 9, 73; of cognitive overload 4, 10; of working in contemporary organizations 51–62
- psychological demands 95
- psychological distress 4, 9, 87, 147; work-related 52–56
- psychological health 9, 98
- psychological issues 10, 52
- psychological needs 44, 68
- psychological processes 44
- psychological theories 150
- psychological variables 24
- psychological well-being 75
- public Ethics of Care Leadership (ECL) 103
- public leadership 109; women leaders 108

- public leadership, as conduit to
  - alignment 98–100; adapting to technological change and globalization 99; encouraging innovation within supportive framework 99; policy formulation and regulation 98–99; promotion of social dialogue and consensus-building 99; toning down the rhetoric 99–100; visionary planning and strategic goal-setting 98
- qualitative process 43–44
- quality of life 1
- quiet quitters 2
- racial inclusion 109
- racial inequality 11
- rat race 69, 70
- recalibration 83
- reciprocal social-learning process 103
- reduction to absurdity 151
- reinforcement 76, 140
- reinforcement techniques 36; positive and negative 36
- religion 21, 23, 66, 74, 75
- research 39, 68, 136; on automated cognition 136, 137; scientific 149; stress 56
- research methods 38
- resources 21, 22, 84, 148, 156; attentional 5; cognitive 3
- Rhineland capitalism 89
- risk 26, 27, 97; aversion 91; of market economies 88; of suicide 56
- risk-averse organizational cultures 91
- risk management 110
- risk-taking 99
- robots 123
- Rockefeller, John D. 26
- Roosevelt, Frederick Delano 35
- Rousseau, Jean-Jacques 17
- Scandinavian, coordinated capitalism in 89–90
- Schein, V. E. 104
- Schmid, Julius 27
- science 66, 72–74; as guides to modified capitalism 75–78
- scientific inquiry 72
- Scientific Management 57
- scientific method 38, 64, 73, 77
- scientific research 149
- scope of discourse 64
- securities regulation 85
- self-concept 73
- self-driving system 153
- self-efficacy 155, 156
- self-regulating mechanism 70
- self-regulation 6, 29, 30, 31
- sepression: characterization 4
- shifting targets 2
- Simon, Herbert 137
- Sinclair 28
- Six Sigma 57
- Skilling, Jeff 41
- slavery 20
- Sloan, Alfred 44
- slowing down global competition 64
- social acceptability 68
- social anxiety 3
- social behaviors 69
- social capital 23
- social category 21
- social classes 22
- social cognitive theory (SCT) 103, 106
- social cohesion 90
- social credit system 152
- social dialogue 99
- social ecosystems 64
- social equity 86, 87, 89, 91
- social harmony 23, 88, 104
- social identities 21, 38
- social inclusion 90
- social inequalities 31
- social influencers 39
- social investment 90
- socialism 71, 72, 76, 83
- Socialism with Chinese characteristics 93
- social justice 35, 71, 72, 108
- social learning process 106
- social media algorithms 8
- social ostracization 54
- social policy approaches 86
- social recognition 140
- social safety 84
- social science theory 149
- social security 85, 88, 90
- social solidarity 91
- social status 21
- social stigmas 52
- social stratification 21
- social structures 31
- social sustainability goals 9
- social welfare 84–86, 88, 89, 92, 96, 97
- societal benefits 66

- societal functioning 65
- societal norm 90
- societal values 96
- socioeconomic changes 28
- socio-political-economic landscape 64
- South Korea: directed capitalism in 93
- state-induced modernization 94
- state-mediated social policies 88
- state-supported childcare 90
- statistical analysis 38
- Steinbeck 28
- stereotype 58; of working women 104, 105
- stock markets 86
- stock value 41
- Storch, Jerry 42
- strategic goal-setting 98
- strategic thinking 26
- strategies 21, 22, 28, 63, 140;
  - sustainability 65
- stress 4, 13n21, 52, 53, 56, 97, 154
- Stroop test 5
- subconsciousness 135
- subconscious processing 5, 136
- subjective well-being, work for 52
- substance abuse 53
- substitution industrialization 93
- suicides 76; work-related 55–56
- superannuation system 86
- supply-chain manager 43
- supraliminal 142
- survivor 19
  
- task-oriented style 42
- task performance (TP) 3
- Taylor, Frederick 57
- technical innovation 128
- Technoethics 128, 129–130
- technological advancement 93
- technological change 91
- technology 25, 26, 31, 70, 83, 87, 121, 129, 130
- telecommunications 93
- tendency 138; similarity-attraction 115
- Tesla 92, 125
- Tesla, Nikola 26
- theoretical frameworks 64
- theory-driven approach 151
- theory-grounded approach 64
- theory: of moral reasoning 64; of unconscious 137
- think-manager-think male 104
- 3D technology 121
- top-down approach 94
  
- trade liberalization 86
- Trade Union Federation 89
- Transhumanism 128, 129
- transportation 25, 31
- trial-and-error approach 121, 151
- Trump 37
- trust 41, 44, 90
- truth 157
- Twain, Mark 69
- two-task approach 5
- typical U.S. model 92
  
- uncertainty 11, 26, 87, 97
- unemployment benefits 85, 90
- unit cost 57
- United Kingdom: liberal capitalism in 85–86; Statutory Maternity Leave 86
- United States (U.S.): Family and Medical Leave Act 86; industrial and business evolution 25; industrialization, early 25–28; liberal capitalism in 85; work–family conflict in 55
- Universal Declaration of Human Rights 111
- universal language 76
- unsustainable organizational practices 51
- U.S. Centers for Disease Control and Prevention 56
- U.S.-centric framework 64
  
- value 24, 40, 43, 63, 65, 68, 88;
  - archetypal 43; of female leadership 109; productivity 97; stock 41
- value-laden labels 100
- Vanderbilt, Cornelius 26
- virtual reality 124
- vocational training systems 90
- Volkswagen 42
- voluntary collaboration 108
  
- Wagoner, Rick 41
- Walmart 28
- Walt Disney 28
- Walton, Sam 28
- wealth 21, 23, 84; inequality 93
- Welch, Jack 45
- Welch, Suzy 38
- Western European: coordinated capitalism in 89
- Western societies 68
- Whitehead, Alfred N. 150
- wolf culture 84

- women, ECL, 107, 108; cultural and historical examples 110–111; implications of gender distribution in valuing care for 107–111; private sector leadership 109–110; public leadership 108–109
- work: cognitive demands of 56; health issue 51; human sustainability at 63–79; psychological distress on rise 52–56
- work-attributed suicides 2, 55–56
- workforce sustainability 84
- work-home conflict 54–55
- working: psychological cost, of working in contemporary organizations 51–62
- work–life balance 96, 113–114; erosion of 87–88
- work–life conflict 2
- work–life imbalance 113–114
- workplace: conflict 91; mental health 53; stress 53
- work-related anxiety 53
- work-related psychological distress on rise 52–56
- World Health Organization (WHO) 9, 54
- World War II 25
- worthlessness 4
- Yahoo 45