

The Healthy Balance Between Natural and Artificial Intelligence

ISSN: 2688-836X



Jorge Garza-Ulloa*


Research Consultant Services, USA

Abstract

The forgotten need to recognize our “true identity” under the environmental-threshold, society, and cultural roots, that naturally serve as basis of the development of our “natural cognition”, “memory”, “learning” and “thinking” that has been altered by the misleading overuse of “Artificial Intelligence” to generate more fascinating and useful technologies but many times are unfortunately used to manipulate us for commercial, economic, political power and other issues. These facts are taking us to the need to find ourselves to find “the healthy balance between the natural intelligence and the Artificial Intelligence”.

*Corresponding author: Jorge Garza-Ulloa, Research Consultant Services, USA

Submission:  November 05, 2022

Published:  November 22, 2022

Volume 12 - Issue 4

How to cite this article: Jorge Garza-Ulloa*. The Healthy Balance Between Natural and Artificial Intelligence. *Nov Res Sci.* 12(4). NRS.000794. 2022.
DOI: [10.31031/NRS.2022.12.000794](https://doi.org/10.31031/NRS.2022.12.000794)

Copyright@ Jorge Garza-Ulloa, This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Natural Intelligence

True identity

“True identity” is defined as the fact of being who or what a person, and what everyone wants to be in its life based on their own “heredity, environment-threshold, society, cultural roots, and many other factors”. Finding each person its own “true identity” would then know what should do, and what should not, based on detecting its own “natural Intelligence potentialities” identifying its natural abilities, developing appropriate attitudes, and directing all effort to reach our well-defined goals in our own life to be ready for a necessary well adaptation to the challenging world situations with the maturation needed to take the best decisions in our mature mind specially when tension rises between collectivism and individualism in the actual society altered for new technologies as smart devices using Artificial Intelligence.

Natural intelligence potentialities

The “true identity” the development of our “natural intelligence” identifying our type of frequently hereditary abilities and drive them to a continuous evolution for grow and mature a set of our own “natural intelligences potentialities” [1], allowing us to process information in our mind under our vision of our cultural, and environment framework to create solutions for visualized problems even before they happen or develop new ideas for the evolution of the humankind. The continuous development of our “natural intelligences potentialities” are defined as bodily-kinesthetic, linguistic, logical-mathematical, spatial, musical, intrapersonal, interpersonal, naturalist, and the “mature natural intelligences potentialities” as existential, spiritual, moral and many others (Figure 1).

Bodily-kinesthetic intelligence: “Bodily-kinesthetic intelligence” allows individual controls of our body in terms of physical activity with fine motor skills. This intelligence shows the comfort and connection with our own body through fine controls including strength, flexibility, speed, coordination, and others. It is observed on actors, mime artists, musicians, dancers, athletes, etc.

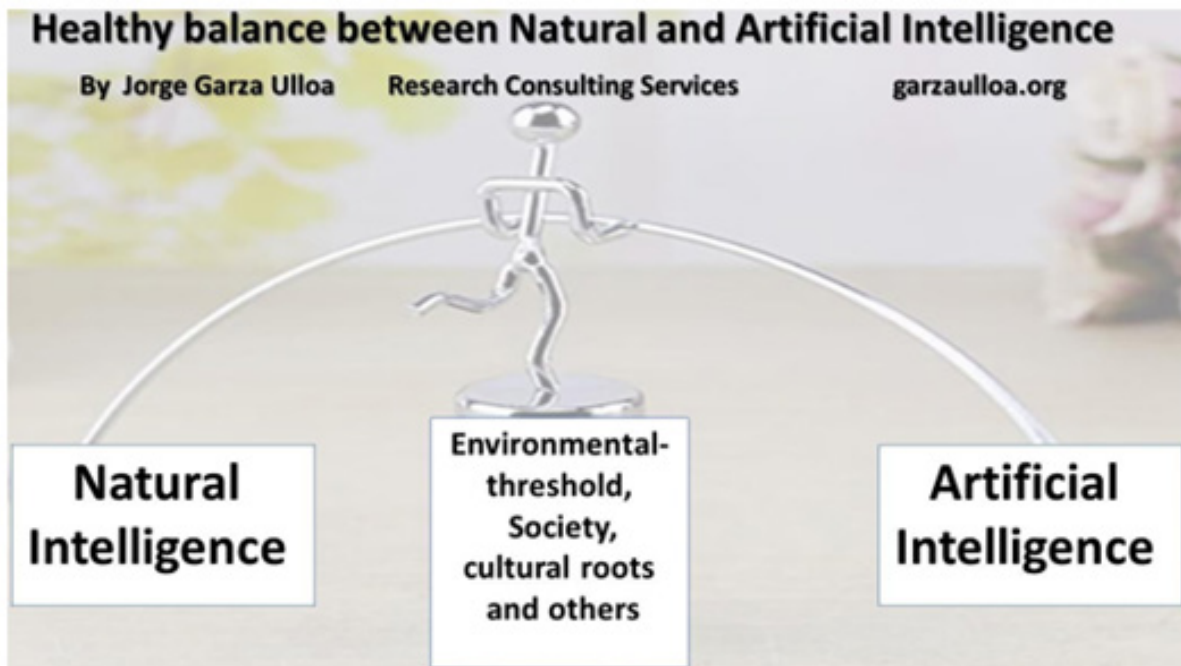


Figure 1: The healthy balance between Natural and Artificial Intelligence.

Linguistic intelligence: “Linguistic intelligence” allows the finding the right word in our mind to express ourselves, this is observed on people that enjoy writing or speaking expressing very well what’s are the ideas in their mind. It is observed on authors with dexterity on write books, journal, articles, etc., speakers that make us think very clearly about its speech, persons with inclination toward learning languages etc.

Logical-mathematical intelligence: “Logical-mathematical intelligence” allows to have the ability to analyze situations or problems logically, identify solutions, conduct scientific research, and easily solve logical/mathematical operations.

Spatial intelligence

“Spatial intelligence” gives us the ability to visualize in our minds a space and imagine it from different angles, no facets and fine details even without the presence of physical stimulus.

Musical intelligence

“Musical intelligence” is the capacity to recognize patterns that allow enjoyment, thinking, and even create music and rhythm.

Intrapersonal intelligence

“Intrapersonal intelligence” is the ability to decode and analyze our individual our own motives, desires, thoughts, and emotions.

Interpersonal intelligence

“Interpersonal intelligence” is the ability to bond and connect with other people and manage relationships, understand other people emotions, and determine how best to interact with them.

Naturalist intelligence

“Naturalist intelligence” allows us to identify and classify patterns in natural environment. Individuals with naturalist intelligence have a sensitivity to and appreciation for nature as animals, plants, and the natural work around us. The following are identified as “mature natural intelligences potentialities”.

Existential mature natural intelligence

“Existential mature natural intelligence” is the ability to develop sensitive for conceptualizing or tackling deeper or larger questions about human existence, such as the meaning of life, why are we born, why do we die, what is consciousness, or how did we get here.

Spiritual mature natural intelligence

“Spiritual mature natural intelligence” is the ability to access higher meanings, values, abiding purposes, and unconscious aspects of the self and to embed these meanings, values, and purposes in living richer and more creative lives.

Moral mature natural intelligence

“Moral mature natural intelligence” is the capacity to understand right from wrong and to behave based on the value that is believed to be right. “Natural Intelligence” frequently is measured using an “Intelligent Quotient (IQ)”, with standardized tests or subsets designed to assess human intelligence that measured a person’s spatial skills including understanding, reasoning, memory, and others. “One fact is that this IQ is uncomplete is that most intelligent people with high IQ score frequently fails to capture real-world decision-making and also has underdeveloped their ability to

interact well with others". The total combination of your hereditary abilities "natural intelligence potentialities" with a different degree of intensity, plus the ones that you can develop yourself define you as a "unique one person" in this world. We can establish that once that we identify our "true identity", and our "natural intelligences potentialities", we mature them with more dedication, practicing and testing to continuously improve each of them. These give you an advantage to decide what to do in our life with more probabilities of success and satisfaction".

Critical Thinking

One tool to complement our "natural intelligence potentialities" based on our "true identity" is the "critical thinking", defined as the analysis of available facts, evidence, observations, and arguments applying a collection of "cognitive skills" that allows us to think rationally to form a good judgement for each situation analyzed and make an informed decision with bigger probability of success. "Critical thinking" is improved with training, and it can be evaluated using tests to solve variables real-life challenges under analysis, assumption, inference, and deduction to make logical conclusions [2].

The typical 7 steps for "critical thinking" are:

Identify, organize, and structure all information before analysis

This step helps to visualize the information on maps or organigrams, where each information is inside of rectangular box e indicate their dependency between them with arrows.

Structure reasoning for each possible decision

"Structure Reasoning for each possible decision" for example "Yes- no-maybe", "Because- but", "What if", etc.

Integrate more evidence for each possible decision

"Integrate more evidence for each possible decision"

Identify important assumptions for each argument

"Identify assumptions for each argument" selecting the most appropriate ones removing the one irrelevant for the actual situation.

Analyze all information and evaluating each argument

"Analyze all information and evaluating each argument" with most accepting evidence or rejected claims.

Decide between all ideas and inferences

"Decide between all ideas and inferences", select the ones as suitable solution

Communicate the final decision to others with open mind

"Communicate the final decision to others" in an understandable way to sustain your conclusion based on facts, and always be with

an open mind for other additional perspectives and re- analyze them. "Critical thinking" is self-directed, self-disciplined, self-monitor, and self-corrective thinking based on rigorous standards to achieve excellence with a mindful order to entail effective communication and problem solving. Therefore, "Critical thinking" skills are a useful tool for the correct development of our "natural Intelligence potentialities", to take real life decisions helping us to maintain distance from biases and emotional judgments with the advantage of help us make the best choices for our health, values, best goals, and long-term happiness. Example: Healthcare and Critical Thinking

Critical thinking is a must important for healthcare and other fields, where each decision must be supported for selecting the most informed one with the highest probability of success. It is crucial in public health due to the increasingly complex challenges faced by this field, including disease prevention, illness management, economic forces, and changes in the health system [3]. The most frequently cases where "Critical Thinking" is applied on health areas are: "Education: Unfolding case-based learning", "Clinical documentation: Help medical personnel to be more proficient clinical documentation", "Prevention of clinical problems and other patients' complication", and many others health areas. Where:

A. "Education: Unfolding case-based learning" is an adaptation of case-based learning that is popular in medical and nursing education. It is more effective than traditional learning in improving nursing students' academic achievement, critical thinking, and self-confidence [4].

B. "Clinical documentation: Help medical personnel to be more proficient in clinical documentation" and improve their critical thinking skills for patient care obtaining to the most important information from "Electronic Health Records (HER)" [5].

C. "Prevention of clinical problems and other patients' complication". Analyses of "critical thinking" in nursing education seem to be oriented towards clinical contexts and outcomes, with the "critical thinker" having to employ a set of cognitive skills to tackle and prevent clinical problems and other patient complications [6].

D. And many others healthcare areas

Development of critical thinking in health professions education to focus on patient care for problem-solving, clinical reasoning, moral reasoning, and understanding of one's own thought processes (metacognition) through habit of the mind [7].

Artificial Intelligence

"Computing Intelligence" was documented by Alan Turing in his paper: "Computing Machinery and Intelligence," around 1950's which opened the door to this field with the notion of machines being able to simulate human beings and their ability to do intelligent things, such as play chess, analysis, classification, prediction, etc. Turing then went on to propose a method for evaluating whether machines can think, which came to be known as the "Turing Test," as a central and long-term goal for "AI research." Will we ever be

able to build a computer that can sufficiently imitate a human to the point where a suspicious judge cannot tell the difference

between human and machine? From there has been an exponential revolution as shown in Figure 2 [8].

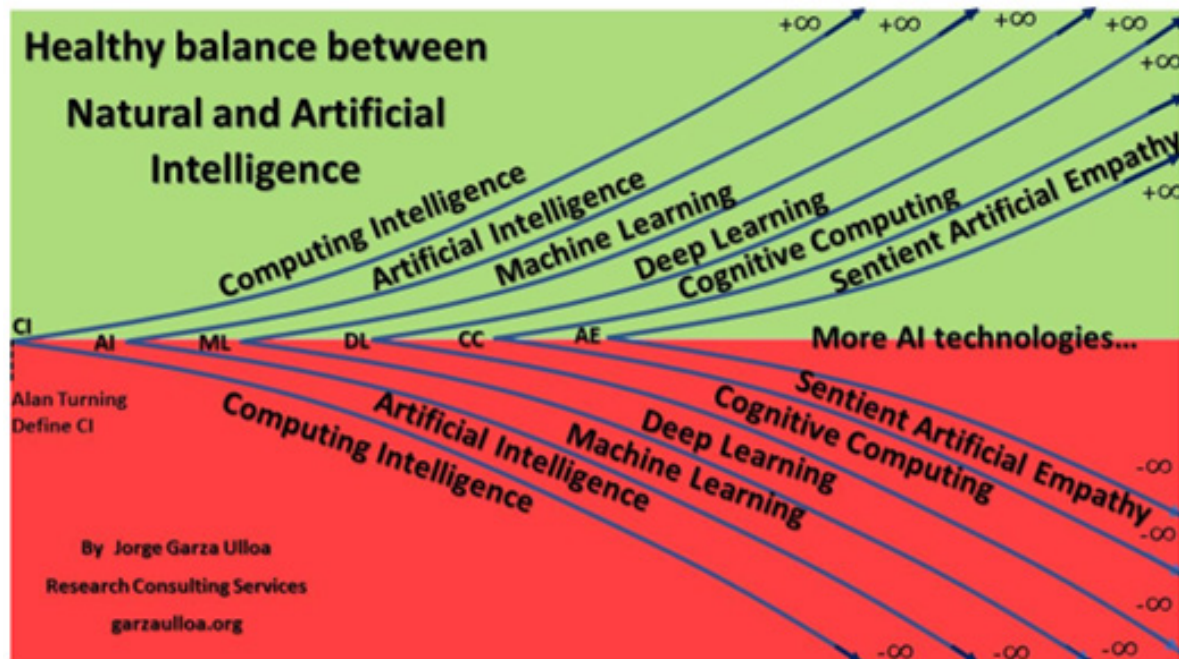


Figure 2: The exponential revolution of Artificial Intelligence has positive and negative consequences for humanity.

“Artificial Intelligence (AI)” is focused on the imitation of intelligent human behavior using software processes that enables machines to “mimic human intelligence” through computer systems. These processes include “learning,” “reasoning,” and “self-correction”. Applying “Evolutionary Algorithms” that emulate natural evolution, such as “Genetic Algorithms,” “Genetic programming,” “Swarm Algorithms,” “Ant colony optimization,” “traditional search methods,” “Memetic algorithms”, “optimization of numeric value problems in 2D and 3D”, “visual analysis datasets of different diseases from different Bio instruments to analyze relation between their attributes”, “Differential evolution” and many others [9].

Machine learning

“Machine Learning (ML)” is a subset of “AI,” and it is defined as the algorithms inspired how the structure and function of the “human brain,” works implemented on a machine for imitate learning, and improve from experience. It designed to recognize patterns that are represented by numeric vectors that represent images, sound, text, or time series with many AI algorithms as “Reinforcement Learning” inspired by behaviorist psychology, concerned with how software agents ought to take actions in an environment to maximize some notion of “cumulative reward” [10].

Deep learning

“Deep Learning (DL)” is a subset of “ML,” and it is defined as the algorithms inspired by the structure and function of the “human brain,” such as the “Artificial Neural Networks (ANN)” of many

levels that are designed to recognize patterns that are represented by numeric vectors that represent images, sound, text, or time series and balance them to find the results [11].

Cognitive computing

Cognitive Computing (CC) also known as “cognitive learning” is derived from cognitive science as the interdisciplinary scientific study of the mind and its process and solutions from artificial intelligence algorithms to mimic human intelligence and its problems solving applications including any types of human process intelligence. They are special applications that are implemented using any combination of “AI” technologies to build “cognitive models” for mimic “human cognition” as processes that involves the perception of the world, and how individual symbolize and react to it as “consciousness” for a decision-making result. Cognitive ability of natural intelligence uses specific neuronal networks in the brain including all nervous system components. i.e., processes using “Natural Language Processing (NLP),” “handwriting recognition,” “face identification,” “behavioral pattern determination” and other special algorithms, such as “sentiment analysis” as the process of computationally identifying and categorizing opinions expressed in a piece of text, especially to determine whether the writer’s attitude towards a particular topic, product, etc. is positive, negative, or neutral [12].

Cognitive scientists have long wondered if Bayesian inference, a mathematical way to incorporate evidence into existing ideas, also influences how we perceive the world or make decisions applying “critical thinking”. The observation that AI inspired by the theorem

can sometimes mimic human cognition is rekindling that debate [13].

Artificial empathy

“Artificial Empathy (AE)” is in development as AI systems that can detect emotions and respond to them in an empathic way. These AI systems are based on the link between affective and cognitive process [14] and it is built with algorithm that scrap many related papers of text from the internet, to answer questions in as fluid and natural a way as possible. “AE algorithms” are applied on virtual chats, companion robots, smart toys, and many other smart applications. “AE” is based on computational modeling of empathy A broader definition of artificial empathy is “the ability of nonhuman models to predict a person’s internal state as cognitive, affective, physical given as the signals the person emits as facial expression, voice, gesture to predict a person’s reaction including, but not limited to internal states when he or she is exposed to a given set of stimuli as facial expression, voice, gesture, graphics, music, etc.”.

While machines do not feel emotions, they can learn how to recognize people, their movements and analyzed their body language, their tone of the voice, even word choice with NLP or a hand gesture are data points that can help machines learn to decipher the emotional state of a person in real time and incorporate the analysis of emotion extract from images and/or videos, i.e., convolutional neural networks found that contrary to popular belief, the human visual system naturally embeds information about emotion [15].

The “AE” would be very useful for many areas as medicine, healthcare, transportation, business, and many more. For example:

A. Medicine will reach the concept of “Deep Medicine” as a very well-implemented AI can free physicians from repetitive tasks such as notetaking, providing more face time to meet, inform, reassure, and follow up with patients. i.e., neurologic diseases, mental status, etc.,

B. Healthcare i.e., care givers to perform emotional labor above and beyond the requirements of paid labor can experience chronic stress or burnout and can become less sensitive to patients. “AE” helps the socialization of caregivers or serves as role model for emotional detachment.

C. Transportation i.e., evaluate tiredness, stress, accident analysis, etc.

D. Business i.e., chatbot as computer programs that can simulate human conversations. They have already shown themselves to be valuable tools for customer service and marketing.

E. Domestic devices i.e., home robot is a type of service robot, an autonomous robot that is primarily used for household chores, but may also be used for education, entertainment, or therapy. While most domestic robots are simplistic, some are connected to Wi-Fi home networks or smart environments and are autonomous to a high degree.

F. Industrial devices like industrial robots are used in many

areas such as: assembly& dispensing, logistic & storage, inspection& quality, etc.

G. And many more areas where “AE” can help.

In general way, “Artificial Intelligence” includes “Machine Learning”, “Machine Learning” includes “Deep Learning”, “Deep Learning” includes “Cognitive computing”, “Cognitive Computing” includes “Artificial Empathy” and so on AI is grown exponentially as indicated in Figure 2.

Criteria for Healthy balance Between Natural and Artificial Intelligence

Unfortunately, AI technological advances besides its great benefit also alters continuously everything that is associated with humankind including the deterioration of the need for continuous development of our “natural intelligence potentialities”. These are threatened by attacking our individual natural choices deliberately through targeting our human physical and mental weakness, daily activities interruptions, productive time diminished, health affected, data privacy is constantly exposed, and even emotional states with AI applications developing “human addictions”, “change our way to think and reasoning to reach natural happiness based on true human values” and many other facts. These AI applications are used for many purposes as increased commercial consumerism, politics advantages, religions shifting the human values, and many more. Governments and companies have been trying to regulate AI under states of AI and ethical issues with not optimal results. The more effective way is to detect ourselves when AI technologies are affecting us, evaluating the inconvenient alterations on the continuously development of our “natural intelligences potentialities by frequently testing our personal state of mind to detect unwanted alterations and finding our healthy balance between Natural and Artificial Intelligence”. Examples of altered Natural Intelligence potentialities Intrapersonal intelligence alterations examples are shown in Table 1. Something similar can happen with the alterations of the others “Natural Intelligence potentialities”, usually first intent to restore the alteration is achieved with resting, meditation, and/or find the true reasons of disturbances and restore them*.

Note*: Additional to the human normal reactions when an unhealthy person is tired are illness, injury and deceases that must be treated by medical doctor and healthcare personnel.

How natural intelligence is altered by artificial intelligence

The “Natural Intelligence potentialities” are being altered by multiple factors on our daily life many of them are generated by the normal balance adjustment needed on our natural human body when aged or by presenting illness, injuries, and diseases, additional on these days of overwhelming amount of information received by “Artificial Intelligence algorithms inspired by behaviorist psychology” apps running on all smart devices. These constantly interruptions alter our natural behaviors applying AI algorithms as “reinforce learning”, that are deigned to keep our attention

constantly by activities based on rewards of different types with the purpose of creating addiction on us for different purposes from statistics, commercial, political, etc. When the time passes these activities model our preferences and personal choices, by changing our way of reasoning little by little and even changing our personal or traditional decisions and activities that we usually enjoyed more. These results are achieved by deviating our attention to things that are not so important in our natural life by driving our imagination to keep our attention to new way to apply new technologies that

presumed to be more effectives, and easier to realize on our daily activities with the advantage of obtaining more rewards. If we do not react to this “AI control”, an addiction is generated in our mind with a very high probability reprogramming our natural neural networks at our human nerve system. All these “AI Control and alterations distract the natural development of our natural intelligence potentials are shown in Figure 3, they are explained with more details in the following steps:

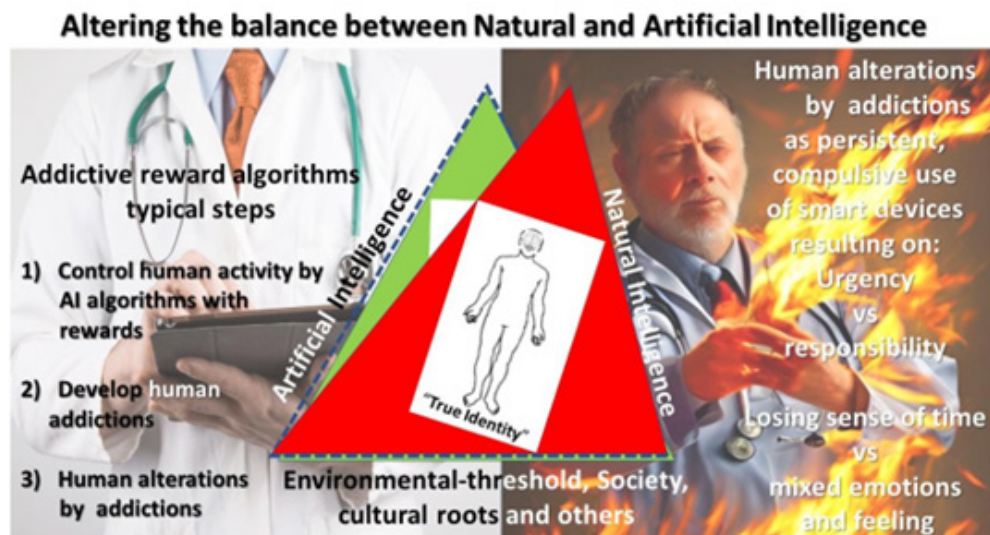


Figure 3: Alterations on the balance between Natural and Artificial Intelligence.

Table 1:Some examples of altered natural intelligences potentialities.

Intrapersonal Intelligence Alterations	
Normal	Altered
Detected on a person that has natural intuition as the ability to understand something instinctively without the need of conscious reasoning, self- direction with personal independence with self- reliance and self-sufficiency, limitless imagination and creativity, personal resilience, and others.	When suddenly a person runout of ideas, stay confused what to do next, lost his direction and/or control, etc.
Interpersonal Intelligence	
Normal	Altered
when a person has the ability to relate well with people, manage effective relationships, understand the needs and motivation of people around him strengthen his influence.	Ehen a person with begin to feel uncomfortable with people around him, lost motivation, and cannot understand other people anymore.
Naturalist Intelligence	
Normal	Altered
when someone is serene and pacified inside, he can perceive the harmony that exists inside of his body and the environment surrounding him i.e., when a person is in harmony inside, when he goes to the countryside, he can enjoy perceiving the harmony that exists between all the sounds that are heard at sunset. The different birds, the cows, the noise of the grass and the branches that move, some voices, and even the rumors of the road that are heard far away. Everything produces a beautiful harmony and satisfaction	When a person with naturalist intelligence is restless and disturbed, everything he sees and hears seems out of place. The person who is not pacified inside is bothered by those sounds. His thoughts are based on wishing for absolute silence, or to hear only some of those sounds, and not others. He wants the world to adapt to his ideas.

Step 1) Control human activity applying AI algorithms with

rewards: Many of our day to days choices, tasks, and behaviors are driven by how the result make us feel, regardless of the outcome being positive or negative. i.e., in the physical world workers have a reward by carrying out their tasks in exchange for money to buy what needed. The human brain learns many processes through “biochemical rewards that increase (excitatory) or decrease (inhibitory) our reactions for motivation, attention, etc. this result in adjustment on how we react by sending orders to our “nerves cell” that are connected in a path known as “neuron neural networks”. In each neuron connection the natural hormones generated known as “neurotransmitters”, these signaling molecules affect another neuron in the connection identified through the connection named “synapse” pass the responses for internal/external signal generated at human natural sensor as smell, touch, taste, vision, and hearing with the result to handle major functions of the brain. In summary this natural process of react based on rewards has been developed and implemented applying ‘AI algorithms with rewards” known as “reinforcement learning”. Today is very common to spend hours on social media, video games, checking email constantly, reading text, seeing pictures and video that we received constantly on application as email, WhatsApp, signal, texting, and many others application. The problem is that information received as texting, pictures, or videos are programmed to make uses of natural generation of hormones or “neurotransmitters” secreted. These are mainly of three types of them “small molecules used for fast signal transmission between neurons”, “small used for slower modulation of network activity”, and “large molecules used for even slower modulation of cell circuit functions” [16].

A. “Small molecules used for fast signal transmission between neurons” are the neurotransmitters known as amino acids glutamate and gamma-aminobutyric acid (GABA). All neurons in the brain (99%) release these two chemicals to control all the major functions of the brain as perception, cognition, consciousness, and others.

B. “Small used for slower modulation of network activity” known as neuromodulators are less than 1% of neurons that play important role in emotions, behaviors and other functions includes “acetylcholine” and the monoamines “dopamine”, “serotonin”, and “norepinephrine”.

1. “Acetylcholine” is the transmitter used at neuromuscular synapses in motor neurons release this to activate muscles and in the brain play important roles in arousal, attention, memory, and motivation.

2. “Dopamine” plays a significant role in motivation and reward-motivated behavior and learning, mood, pain, and appetite.

3. “Serotonin” plays a significant role in the sleep/wake cycle, mood, pain, and appetite. Serotonin deficiency is associated with depression and anxiety. Also known as the “happiness hormone,” because it arouses feelings of pleasure and well-being but “Low levels of serotonin are associated with increased carbohydrate cravings, depression or other mood symptoms, sensory perceptions,

sleep deprivation, and hypersensitivity to pain.”

4. “Norepinephrine” plays in the brain in alertness, arousal, and readiness for action. The norepinephrine system is important in attention as alerting, focusing, orienting, also appetitive behaviors, mood, and regulation of blood pressure.

C. “Large molecules used for even slower modulation of cell circuit functions” are used for slower modulation of neural functions and includes “peptides”, “endorphins”, “cannabinoids”, “oxytocin” and many others.

1. “Peptides” commonly known as proteins are important for muscle building, neuropeptides are used by neurons to communicate with each other, and many important functions to maintain good health.

2. “Endorphins” can produce a feeling of euphoria, regulate levels of dopamine, and other functions.

3. “Cannabinoids” regulates multiple aspects of neural functions, including the control of movement and motor coordination, learning and memory, emotion and motivation, addictive-like behavior, and pain modulation, among other functions

4. “Oxytocin” is associated with empathy, trust, sexual activity, and relationship-building.

Most neurons have receptors for most of the neurotransmitters in all three of these categories.

Examples of AI algorithms with rewards

“Algorithm” is a set of rules or instructions used to resolve complex problems, while “AI algorithms with rewards” are artificial intelligence computer programs that analyze everything you on the application, deduct your behaviors paths based on your choices, classify them and even forecast what you would like to see next and send information related that it is important to you generating in your brain a “emotional o opportunity with point reward” as satisfaction that you can find what are you looking in less possible time on an special deal. Some examples are:

A. “Search engine online” as Google, Microsoft Bing, Yahoo, Baidu, Ask.com and many more [17] to search information on webpages, images, news, research paper, books, etc. Google currently commands a market share of 92.01% and receives up to 6.9 billion daily searches. Google updates its algorithms 500 to 600 times annually, forcing websites to regularly refine their content to get good rankings. Some as DuckDuckGo have privacy features and are not littered with proprietary products and services as you find on Google.

B. “Social media” as Instagram, Facebook, Snapchat, twitter, TikTok, YouTube, and many others are controlling the life of their users. Daily, where their frequently controlled users check their notification and sigh in dissatisfaction that we have not gotten enough likes on our profile picture or comments. Or, when we quickly check our Instagram notices at regular intervals, etc. In

relationships, social media has become one of their important factors. It drives their daily lives. Also, they are always interacting with new friends on different platforms of social media. In one way or the other, our lives are affected using social media and develop a parallel virtual life.

C. "News websites" are always updating generating and adding new news to generate a need to be inform up to date, these websites analyze the traffic and your activities and with statistic detect what is of more general interest and if their have your username, they personalize the news for you, to maintain your attention and force you checking frequently updates that are important for you as stock prices, public health, etc. to accomplish your awareness.

D. Computer games with rewards points, and many more smart applications

Step 2) Develop human addictions by AI algorithms

"Smart devices driven for AI algorithm using rewards to create addiction" is defined as the persistent, compulsive use of smart devices despite negative consequences. The affected people tend to prioritize the use of these smart devices above all other daily activities and responsibilities taking them to serious problems in their careers, relationships, and even the development of their intelligence potentialities by spending excessive amount of time on these devices and neglecting their important daily obligations of any kind. The symptoms of alterations on the balance between Natural and Artificial Intelligence shown in Figure 3 and they are:

A. Urgency: experience strong urgency to use smart devices for any reason.

B. Irresponsibility: skipping important activities, events and even mealtimes to spend more time using them

C. Losing sense of time: they do not balance their time for rest, study, friendship, family talks and familiar feedback. They always are being defensive about the time they spend on smart devices, and they frequently are lying to family and friends about the time they spend on these devices.

D. Mixed emotions: mood swings and irritability, tiredness, and fatigue.

E. Mixed feelings of guilt, euphoria, and anxiety when using these devices and they try to escape negative feeling and emotion using these AI apps with inability to reduce or stop using them.

The AI applications used on social platforms are now integrating with news and activities that you like always adding something new, where you can earn rewards with things as "accumulating liked icons or even earn money for the number of followers". AI reprograms the content that you see everything thing with more exaggerated news to keep you staying on it. The same ways that "AI Computer games", they reward earning more points that can be exchanged to help you on the game, and offer your more options even with more interesting games reprogramed based on your history past selection or choices, etc. These behaviors are

well known to be "highly addictive" in similar ways as drugs and alcohol. Examples human addictions by AI algorithms with rewards Addictive news consumption AI has help to build very clever solutions to be connected 24/7 with other people around the globe, look for worldwide information, consult knowledge and scientific papers, stock markets, etc. making use of many e-platforms like twitter, social games, WhatsApp, and many more to influence sharing and collaboration activities that allow to be engage all the time. With the advantages of reviewing update news of things of our intertest then creating and/or re-sharing them at any time of the day, with probability if receiving the same news more than one time with different opinions even in the same AI platform, plus additional ones as a "exaggerated and/or fake news". Frequently overrepresenting crime and violence increase their viewership "by catering on the public's fascination with rare and sensational acts of violence, this produce a negativity bias on the humans' underlying psychology to pull us to read and watch news that is negative. No matter how dystopian or gruesome the reality might be, the stories attract us with our negativity bias, then leave us feeling fulfilled, with a sense of pride and high levels of dopamine [18].

The problem of "addiction news consumption" has increased in the last years by the pandemic, presidential election, mass protests, wars and threats between nations, frequently mass shooting in any public places as commercial stores and schools, natural disasters occasioned by the world climate change, people migration, and many more local and international news that all always engage us to be in high alerts, and developing in us a vicious cycle to be obsessed over the news and checking update around the clock to "alleviate emotional distress". The way of "alleviate emotional distress" is build we check a news that we care, we receive additional information, and we initiated an addictive cycle with a need to monitor more and more the situation, resulting in an increasing effect in our anxiety that interfere with our normal duties constantly. This behavior has been identified as "addictive news consumption" and it is a new normal that we can observe in many places as public events as stadiums, theaters, or private events as family reunions, that many of the participants are frequently checking their smart devices to be simultaneously in many places with the results of diminishing attention to whom you are speaking at that time and the relationships quality. Besides it is also notorious when they are working or resting, and we can guess these persons usually weak up at midnight and check the update news, and the alter the time to sleep. All these repetitive actions are affecting our health in many ways, and by consequences our "natural intelligences" that cannot be used with high degrees as normal for the tiredness and anxiety created, and with the time pass they present alteration in their mental and general health [19].

Cyberchondriac

"Cyberchondriac" is a person who compulsively searches the internet for information about real or imagined symptoms of illness. The increased by the online self-diagnosis phenomenon doing research is even more common that everybody is aware, because consulting internet with your personal health symptoms has higher risk for your health because simple symptoms could

evolve into life threatening real situation by auto medications, or your mind can increased the risk for anxiety based on online self-diagnostics forgetting that many symptoms are very common for a big diversity of illness and diseases and without professional diagnostic based on lab test and, biomedical images analyzed by experts and correlated by personal medical history by healthcare professional [20].

Compulsive buying-shopping and/or brand addiction consumption

“Compulsive buying-shopping (oniomania)” is characterized by an obsession with shopping and buying behavior that causes adverse consequences. compulsive buying has negative impacts, today’s technological advances have changed the landscape of compulsive buying. Indeed, the Internet and smart devices have made buying/shopping more convenient, accessible, anonymous, and barrier-free than ever before. Excessive browsing can offer a temporary reprieve from life’s difficulties, stress, depressive symptoms, relational conflict, or anxiety (i.e., negative reinforcement) [21]. Some researchers have even linked the experience of a flow state with online compulsive buying [22]. “Brand addiction consumption” is detected when a people always are rushed to his favorite brand product with collector mentality and more urgent when a new model of that specific brand is available without analyze if it is necessary, and without the new item will bring financial problems for obtain satisfaction as reward, or to be admire, or the need to get attention from others. And many others human addictions by AI algorithms with rewards.

Step 3) Human alterations by addictions for AI algorithms

The human alteration by addictions induced for AI algorithms with regards is detected by deterioration on their “natural intelligences potentialities” development as:

A. “Interpersonal Intelligence potentiality” deterioration by showing increase inability or difficulty for interacting socially with people in the real world with loss of relationships.

B. “Intrapersonal Intelligence potentiality” deterioration showing lower self-esteem due to lack of social interaction, frequently presenting poor hygiene, etc.

C. “Bodily-kinesthetic intelligence potentiality” deterioration in strength, flexibility, walking speed, overweight from sitting down for long periods, losing some fine motor skills for lack of physical activity, vision impairment, etc.

D. “Linguistic intelligence potentiality” deterioration is detected in chat room as WhatsApp, text, and others and other where the words are simplified words or icons instead or looking for the right word and by consequence vocabulary is reduced for the anxiety to respond fast and, they lose the ability of planning how to explain their arguments in their discussions, and many other effects for tiredness and anxiety.

E. “Logical-mathematical intelligence potentiality” deterioration has been detected on the ability to analyze situations when many different opinions are expressed losing the objectivity

to resolve problems logically, when the discussion is missing focus by the mixing many problems at once without a leader to direct the discussions.

F. “Spatial intelligence potentiality” deterioration based on the judgment of what is reality and what is not. Frequently, they believe on many concepts of science fiction or fake news, and they are taken as if they are reality, and they feel frustrated when they realize they are not real or has not been developed yet.

G. “Musical intelligence potentiality” deterioration has been detected on recognize complicated rhythms and songs with pattern when they use uncommon words, they usually prefer repetitive patterns with messages with few, simple and strong words to empowering their identity.

H. “Naturalist intelligence potentiality” deterioration has been detected when they are on vacation, do not enjoy being in touch with nature anymore, they are only worried to find a place to get internet signal.

I. “Mature natural intelligence potentiality” as existential, spiritual, and moral are negated or assumed only their personal toughs as the right ones and do not like to discuss with anybody about their own easy conclusions without any meditation and/or research.

Examples of damages for addiction on smart devices using AI Algorithms smart devices screen and blue light

The problem with the display on smart devices LED (light-emitting diode) screen flat panel that emits blue light beside others that are used to deliver large-scale video displays for public viewing. It uses an array of LED units known as modules of many small LED chips placed on a Printed Circuit Board (PCB) substrate. On natural rainbow, we see the visual light spectrum. These are colors visible to the human eye and include red, blue, and green “wavelengths.” All light we see is a combination of these wavelengths, including light from the sun and exposure to blue light from the sun as well as our screens boosts mood and alertness i.e. sunrise signals to our brain that it’s time to wake up. Using smart devices screen for long time indicates too much exposure to blue light making some alteration on our body [23] as:

A. In the evening, these screen flat panels can disrupt our body’s natural sleep cycle, known as the “circadian rhythm”, that synchronize the sleep-awake cycle with night and day. By slowing the natural production of “melatonin”. It is a natural hormone that is produced by the “pineal gland in the brain”, and then released into the bloodstream to make us follow the natural “circadian rhythm” cycle. Almost everyone has an occasional night with little or low-quality sleep. But when sleep problems start to affect your “quality of life”, you may have a “sleep disorder”. The most common sleep disorder caused by too much exposure to “smart devices screen blue light” is “insomnia, that refers to habitual sleeplessness and it is the most common “sleep disorder” in the world. Besides, insomnia is more common as you get older, and it can affect your life in a number of ways, including daytime fatigue, poor concentration, and low mood.

B. There is evidence that children with computer game addiction have a risk for delay in the development of neurocognitive abilities. In our previous research has been shown that people are affected by computer game addiction have weakness in visuospatial abilities [24].

Social media damage

The prevalence of social media addiction has increased with the intensive use of technologically mediated communication in everyday life. Some actual research exploring social media addiction profiles based on a psychosocial model. as shown on the following research papers:

A. Applying profile indicators were social media addiction, need to belong, anxious attachment, and Social Media Intensity Use (SMIU). The results of a research paper based in "Latent Profile Analysis (LPA)" showed three distinct profiles: "low risk of addiction (61.3%)," "moderate risk of addiction (29.6%)," and "high risk of addiction (9.1%)". The findings could aid practitioners in the development of targeting at-risk social media users, namely social anxious young adult females with an unmet need to belong and anxious attachment and designing programs to help them to control their develop rewarding social relationships and healthy social media use [25].

B. Studying the relationship between social media addiction and depressive experiences as self- criticism and dependency, and the severity of depression. This longitudinal survey with two waves of testing was conducted with a gap of six months, measuring the respondents' addictive tendencies toward social media, depressive experiences, and the severity of depression. Overall, this research found that social media addiction escalates the severity of current and upcoming states of depression. Without the time lag, social media addiction escalates the sense of self- worthlessness, as reflected by depressive experiences, which eventually manifest into depression [26].

C. There is uncertainty about key phenomenological and conceptual details of smartphone addiction [27]. One of the central problems has been understanding the processes that link smartphone usage, and addiction the following studies detect mainly mental health disorders as addictive behaviors and impulsiveness:

i. Generally, a risk group for the "emergence of mental health difficulties across many kinds of disorder, including addictive behaviors" [28].

ii. Individual differences associated with addictive behaviors, such as different facets of impulsiveness, similarly peak around the same time [29].

iii. Meta analysis found a positive correlation between narcissism and social media addiction. The various features of social media provide the opportunity for narcissistic individuals to promote their grandiosity, which satisfies their need for

admiration. Therefore, narcissistic individuals spend more time on Meta (Facebook) and get addicted to it [30].

Alterations or damages for smart devices addiction using "AI Algorithms using rewards", can take many different forms depending on each person' preferences. Usually begin with overwhelming information, physical addictions, net compulsive, cyber-relationships, and many others as sleepiness, anxiety, etc. as smart devices addiction progresses.

Part 4) How to restore the continuous development of natural intelligences potentialities

The best way to restore the "continuous development of natural intelligences potentialities" is based on 4 basic steps: "evaluate deterioration", "detect", "admit" and "correct" the issues as soon as possible. Were

1. "Evaluate alteration of natural intelligences potentialities" evaluate current status of your identified "natural intelligences potentialities" and compare normal behaviors with actual ones as explained in Table 1 with "Some Examples of altered Natural Intelligence potentialities"

2. "Detect" when your continuous natural intelligences potentialities are being constantly being interrupt. i.e., Checking your smart device Constantly by recent news, e-mails, or WhatsApp Messages, social media, twitter, etc.

3. "Admit" that is something is not going well. i.e., check the number of times, calculate the time that you are wasting, verify if you are finishing your daily objectives on time for your general goals and with the quality that is needed, and confirm yourself if are wasting your productive time

4. "Correct" fixing the problem for the continuous development of your natural potentialities with a healthy balance in mind. i.e., mute the notifications, have a daily 20-60-minute time break blocking your phone, try to be turning off your smart device at least one day a week, active sleep mode at night on your phone, etc.

Restoring your natural evolution of your natural intelligences potentialities is not an easy task, request help form family members and friends for support and "if the problems persist look for medical help seeking treatment for computer addiction and get support from people in your life, or join a support group in person, or seek counselling with local therapist specialize in addiction".

Conclusion

It is very important for everybody, especially young people as students to discover and mature their own "Natural Intelligence potentialities" to identify their "true identity", before select what to study to be prepared for their professional life and learn to evaluate all their decisions using "critical thinking" to predict life experiences, avoiding bad ones significantly. In all profession is needed i.e., today is being implemented in all medical and healthcare paths to be prepared with an expertise level of "critical thinker", to employ a

set of cognitive skills to tackle and prevent clinical problems and other patient complications.

On this time "AI" is essential, helps productivity, add efficiency in process and it is already present in almost all fields of science, business, and innovations. We have to recognize that "AI grow exponentially" with positive and negative consequences for humanity as shown in Figure 2, and each time will be more intuitive with more and information of our lives with the more influence to help us in our activities, but at the same time could be more pervasive with a wide diversity of "AI algorithms using rewards" that could be trying to control us that implemented on any kind of smart devices, or even smart sensors or smart transducer, smart robot, etc., and always we need to be aware of possible "alterations or damages on the natural intelligences potentialities". If it is the case, we need to react and correct them in time to avoid deeper addictions that could control our development, success, and happiness in our life.

References

- Gardner H (1999) *Intelligence reframed: Multiple intelligences for the 21st Century*. Basic Books, USA.
- <https://www.forbes.com/sites/forbescoachescouncil/2018/04/20/the-seven-key-steps-of-critical-thinking/>
- https://scholarworks.gsu.edu/epse_diss/101/.
- Chunhua Ma, Wei Zhou (2022) Effects of unfolding case-based learning on academic achievement, critical thinking and self-confidence in undergraduate nursing students learning health assessment skills. *Nurse Edu Pract* 60: 103321.
- Ruth ET, Laly Joseph, Gloria Trujillo (2021) Using virtual simulation and electronic health records to assess student nurses' documentation and critical thinking skills. *Nurse Educ Today* 99: 104770.
- Browne AJ, MacDonald J, Luctkar Flude M, Cdn Adapt (2014) *Physical examination and health assessment (2nd Edn.)*, Elsevier, Toronto, Canada, pp. 912.
- Matthew CR, Daniel MR, Benjamin AW, William LB, Michael JP (2018) Development of critical thinking in health professions education: A meta-analysis of longitudinal studies. *Curr Pharm Teach Learn* 10(7): 826-833.
- Jorge Garza U (2022) Chapter 1-Biomedical engineering and the evolution of artificial intelligence, applied biomedical engineering using artificial intelligence and cognitive models. Academic Press, 1st (edn.), pp. 1-37.
- Jorge Garza-Ulloa (2022) Chapter 3-artificial intelligence models applied to biomedical engineering, applied biomedical engineering using artificial intelligence and cognitive models, Academic Press, pp. 113-173.
- Jorge Garza-Ulloa (2022) Chapter 4-machine learning models applied to biomedical engineering, applied biomedical engineering using artificial intelligence and cognitive models, Academic Press, pp. 175-334.
- Jorge Garza-Ulloa (2022) Chapter 5-deep learning models principles applied to biomedical engineering, applied biomedical engineering using artificial intelligence and cognitive models, Academic Press, pp. 335-508.
- Jorge Garza-Ulloa (2022) Chapter 7-Cognitive learning and reasoning models applied to biomedical engineering, applied biomedical engineering using artificial intelligence and cognitive models, Academic Press, pp. 609-676.
- <https://singularityhub.com/2019/08/08/three-invaluable-ways-ai-and-neuroscience-are-driving-each-other>
- Yalçın ÖN, DiPaola S (2020) Modeling empathy: building a link between affective and cognitive processes. *Artificial Intelligence Review* 53: 2983-3006.
- <https://singularityhub.com/2019/08/08/three-invaluable-ways-ai-and-neuroscience-are-driving-each-other-forward>
- <https://mountainrivers.com/2021/06/15/neurotransmitters-and-brain-%20function/>
- <https://seochatter.com/top-100-search-engines-list/>
- <https://theowp.org/conflict-exaggeration-in-the-news/>
- Bryan McLaughlin, Melissa RG & Devin JM (2022) Caught in a dangerous world: problematic news consumption and its relationship to mental and physical ill-being. *Health Commun* 23: 1-11.
- Nichola Robertson, Michael Polonsky, Lisa McQuilken (2014) Are my symptoms serious Dr Google? A resource-based typology of value co-destruction in online self-diagnosis. *Australasian Marketing Journal (AMJ)* 22(3): 246-256.
- <https://www.psychologytoday.com/za/blog/understanding-addiction/202208/online-shopping-and-compulsive-buying-shopping-disorder>
- Mason MC, Zamparo G, Marini A, Ameen N (2022) Glued to your phone? Generation Z's smartphone addiction and online compulsive buying. *Computers in Human Behavior* 136: 107404.
- <https://www.aao.org/eye-health/tips-prevention/digital-devices-your-eyes>
- Sergey Kiselev (2021) Long term effect of computer game addiction on the development of visuospatial abilities in children. *Biological Psychiatry* 89(9): 301.
- Elena Stănculescu, Mark D Griffiths (2022) Social media addiction profiles and their antecedents using latent profile analysis: The contribution of social anxiety, gender and age. *Telematics and Informatics* 74: 101879.
- Soon Li Lee, Tam Cai Lian, Sivakumar Thurairajasingam (2022) Facebook depression with depressed users: The mediating effects of dependency and self-criticism on facebook addiction and depressiveness. *Computers in Human Behavior* 107549.
- Richard JEJ, Grace Dixon, Maria GD, Edie Thirlwell, Lucy Hitcham (2023) Understanding the construction of 'behavior' in smartphone addiction: A scoping review. *Addictive Behaviors* 137: 107503.
- Kessler RC, Angermeyer M, Anthony JC, De Graaf R, Demyttenaere K, et al. (2007) Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World psychiatry* 6(3): 168.
- Romer D (2010) Adolescent risk taking, impulsivity, and brain development: Implications for prevention. *Developmental psychobiology* 52(3): 263-276.
- Casale S, Fioravanti G (2018) Why narcissists are at risk for developing Facebook addiction: the need to be admired and the need to belong. *Addict Behav* 76: 312-318.