



# The Psychological Impacts Of Artificial Intelligence (Ai) – An Overview

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**Abstract:** *It is imperative to state that advancement and innovations in Science & Technology is of Paramount importance for the development, growth & progress of a Nation. Of late more than other scientific developments, the advancements in Artificial Intelligence (AI) Technology are progressing at very high speeds irrespective of its level of usage. While applications of AI in various fields & spheres of activity are deemed to improve the speed & quantum of work, it is essential and necessary to study and establish its Psychological Impacts. As such this study although an overview has brought out Three major impacts of AI viz Anxiety, Stress and Depression which are all well-established & grounded on various research findings. It is therefore made clear by this study entitled "The Psychological Impacts of Artificial Intelligence (AI) – An Overview" that AI technologies, its design, applications, overuse & dependency are responsible for very many socio-emotional & Psychological problems being faced by number of individuals in the society and community at large.*

**Key Words:** *Artificial Intelligence (AI), Psychological Impacts, Overview, Anxiety, Stress and Depression.*

## 1. INTRODUCTION:

In the Present world of advancements in Science, Engineering and Technology, the applications of Artificial Intelligence (AI) in various fields and spheres of Human Activity has gained a lot of momentum and significance. Although a lot of innovations could be cited, AI needs a special mention given its scope, usage, applications, utility & availability. As such the usage and applications of AI in various fields needs to be dealt in depth as it relates to possible use of the same by millions of Youth and Others in respect of Entertainment, Business, Study, Industry, Education, Research, Career etc. While we are inclined to AI and its applications very much in recent times, we are also called to introspect and be precautious enough about its false ramifications and over utilization which would otherwise eventually endanger the world and mankind. Thus, it is imperative to analyse and study the Psychological Impacts of AI so that the usage and applications of the same does not harm, alter or impact the natural texture & fabric of the Social, Mental, Emotional & Psychological Health and Wellbeing of the Society. As such this study is an earnest attempt and endeavour towards better understanding of the need, necessity, design, construction, application and governance of AI restrained and operative well within the Tenets, Realm & Principles of the Mental & Psychological Health and Wellbeing of the Individual & Community at large.

## 2. REVIEW OF RELATED STUDIES:

While many researchers have explored the Psychological Impacts of AI and its Implications across various fields of activity, work, study, applications & usage, the research studies done by researchers such as Andreassen, C. S. (2015), Bakker, M., Hsu, H.T., & Tzeng, J. (2020), Cacioppo, J.T., & Patrick, W. (2008), Davenport, T.H., & Kirby, J. (2016), Duguay, S., Burgess, J., & Suzor, N. (2021), Huang, C., & Su, T. (2020), Kaplan, A., & Haenlein, M. (2019), Kocielnik, R., & Wigdor, D. (2018), Krupiy, T. (2020), Lombardi, S., Giordani, S., Barbieri, A., Mazzoni, E., & Rubegni, E. (2019), Larson, K., Foster, J., & Gershman, S.J. (2018), Manoj et al., (2023), Nunes, J., Chatterjee, S., & Tavana, M. (2021), Powell, K., & Milstein, J. (2020), Primach, et al. (2017), Sherry Turkle (2015), Twenge, J.M., & Campbell, W.K. (2018) and Vasalou, A., et al. (2008), have clearly brought out various important Psychological Impacts of AI especially that of Anxiety, Stress and Depression. As such these major impacts of AI as inferred from research findings are brought out and Presented in this Overview.



### 3. PSYCHOLOGICAL IMPACTS OF AI

While usage of AI is prevalent, its Psychological Impacts and Implications needs to be viewed with great concern & social responsibility. Although various Psychological impacts of AI have been studied by researchers, the most common and significant ones such as Anxiety, Stress and Depression are presented hereunder as inferred in the light of the research studies done in this field.

#### (i) ANXIETY:

Many people feel anxious while using AI tools, apps, and systems. They are uncertain about its results, privacy, safety, relevance, validity, accountability, reliability, and authenticity. As such, Anxiety often emerges as one of the major Psychological impacts of AI. Many researchers as mentioned above have established the fact that Anxiety can be a result of the use or overuse of AI. A few major inferences as may be perceived from their research findings are;

- (a) Negative thoughts and attitudes exacerbated by the use of AI may increase symptoms of mental disorders, including Anxiety and Depression (Bakker, M., et al., 2020).
- (b) AI makes people feel more Anxious as they fear limiting themselves and losing control over their own data and sense of self (Powell, K., & Milstern, J. 2020).
- (c) Excessive social media use can lead to increased symptoms of Depression and Anxiety among adolescents (Twenge, J.M., & Campbell, W.K. 2018).
- (d) Excessive use of AI in social media by young adults—especially exposure to filtered images—can lead to increased Stress, Anxiety, and Depression (Huang, C., & Su, T. 2020).
- (e) Younger individuals suffer from increased Anxiety and Depressive symptoms due to widespread access to various AI applications across social media and digital platforms (Duguay, S., Burgess, J., & Suzor, N. 2021).

#### (ii) STRESS:

AI Technologies irrespective of their type of usage, design and construction invariably results in stress among youth in particular on account of their excessive, unrestricted, unsupervised over use and dependency. This is all because of the over attraction towards AI Technologies and their easy availability and accessibility. As such Youth in particular who are at the prime age of their intellectual and moral development as well who are at the peak of fostering and nurturing their innate potentials and capabilities are captured by AI Technologies and become slaves or Addicts to their usage much more and above than the level of their actual need or requirements. Thus, while we are inclined to AI and its usage very much in recent times, we are called to introspect and be cautious enough about its false ramifications, utilization, and overuse which if goes uncontrolled would eventually endanger the world and mankind. Although very many researchers as already cited have thrown much light on this crucial issue, a few important research inferences as may be perceived from their findings are;

- a) Many users of AI, especially younger individuals, reported increased Stress due to over-exposure to various AI platforms. (Duguay, S., Burgess, J., Suzor, N. 2021)
- b) Frequent use of social media can lead to feelings of dissatisfaction and Stress. (Andreasson, C.S., 2015)
- c) Excessive usage of AI, especially in social media, can lead to increased Stress, Anxiety, and Depression. (Huang, C.I., & Su, T., 2020)
- d) Due to over-application of AI at workplaces, the workers are forced to acquire new skills to adapt to the new AI environment and work culture, resulting in additional psychological Stress and Obstacles. (Lombardi, S. et al., 2019).
- e) Over-usage of AI makes people feel more stressed, more anxious, limit themselves, and lose control over their own data and sense of self. (Powell, K., & Milstein, J. 2020).

#### (iii) DEPRESSION:

As long as one realizes and makes the very best use of his own abilities and strength, as well as relies on the power of the Almighty whom he trusts as his guiding force, there is a feeling of joy, independence, confidence, security, hope, recognition, achievement, satisfaction, fulfilment, self-actualization, moral reputation, dignity, self-esteem, achievement and success. This reality, which is humane in nature, nurtures and fosters positivity and optimism whereas on the other hand relying on the strength and output of an inhuman AI, with its applications designed and developed by another human, by the application and capacity of human natural intelligence, also deviates, discourages, diminishes, restricts and deprives a Human from relying on his own God-Gifted Natural Human, Intelligence, Intellect, Capabilities, and Potentials. This restriction and disassociation, with the innate strength, potential, capacities, and intelligence, on account of total dependence on AI, only cause a feeling of helplessness, dependency and exhaustion resulting ultimately in Depression. These facts highlighted are also established by various researchers as mentioned earlier and a few important inferences as may be perceived from their findings are;



- a) If users substitute real human interaction with digital contact, it may amplify Depressive symptoms. (Sherry Turkle, 2015).
- b) Social media use can be linked to increased symptoms of Depression among young adults. (Primach, et al., 2017).
- c) Excessive use of social media can increase symptoms of Depression and Anxiety among adolescents. (Twenge, J.M & Campbell, W.K. 2018).
- d) Thoughts and attitudes exacerbated by the use of AI may increase symptoms of Mental Disorders including Anxiety and Depression. (Bakker, M., et al., 2020).
- e) Usage of AI in social media very much affects emotional states, thereby leading to increased Stress, Anxiety, and Depression. (Huang, C., & Su, T. 2020).

#### 4. CONCLUSION

In the light of this study – An Overview of the Psychological Impacts of AI highlighting anxiety, stress and depression, it is very clear and evident that the usage and applications of AI in various fields and spheres of activity do impact the psychological and mental well-being of individuals and society alike. While technological developments are much required for the progress and growth of a country, the Social, Emotional & Psychological Health & Wellbeing of the Society is of paramount importance. Thus Invention, Construction, Usage, Design, Development & Applications of New Technologies especially those that are very much dependent upon AI should invariably be designed, constructed, applied, developed & made use of without detriment to the Ethical, Social & Moral Values & Principles as well as Emotional, Mental, Physical & Psychological Health & Wellbeing of the Individual & Society. As such this Overview of the psychological Impacts of AI founded on the premise of various research findings is a clarion call to all scientists, Industries, organisations & research establishments engaged with the Design, Development, Construction & Application of AI in various fields to introspect & endeavour with utmost caution & social responsibility so as to value, care, preserve, protect & nurture basic human values as well contribute their best towards Socio-Emotional & Psychological Health & Wellbeing of the Society and Community at large.

#### 5. SUGGESTIONS

This study although an overview has focused enough on the psychological impacts of AI such as anxiety, stress and depression. As such in order to avoid or prevent such psychological impacts of AI the following Suggestions are brought out.

- All users of AI tools & applications should exercise caution in respect of their usage.
- The users at all levels and age groups should bear in mind the basic fact that it is only a Man – Machine interaction.
- Overuse and dependency upon AI irrespective of its usage not counting on the fields involved, would only lead to social isolation & disconnect with Peer & Family eventually resulting in Anxiety, Stress and Depression.
- In order to ensure cautious & measured usage of AI tools & Technologies, users should be made aware of their harmful effects, implications and impacts on their Social, Mental & Psychological Health and Wellbeing.
- Educational Institutions, Industrial establishments & Organisations both technical and non-technical in nature should establish norms and set guidelines for Judicious and measured use of AI technologies without Discouraging, Suppressing, Ignoring, Compromising, and Sidelining Human Presence, Service, Involvement, Contributions and Innovations arising out of the Supreme Human Intelligence.
- End users of AI should invariably & strictly adhere to respective Governments' AI Policies, Guidelines and Standard Operating Procedures (SOP) so that Safe & proper usage of AI could be ensured without detriment to Human Values Ethics, Safety and Wellbeing.
- Developers of AI Tools and applications should design their products by strictly adhering to their respective Government's Advisory, Policies & Guidelines with Social Responsibility without detriment to Human Ethics & Values, as well Physical, Mental, Emotional & Psychological Health & Wellbeing of the Individuals and Community.
- School/College Psychologists and Health Organisations should create awareness about the Health Hazards of Use & Misuse or Overuse of AI tools and Applications among Parents, Students & Public.
- Only AI tools & applications that are necessary & favourable for the purpose required should be used and made available to students in Educational Institutions at all levels so that they don't become totally dependent on subservient to AI and lose or dampen their innate potentials such as Creativity, Logical reasoning, Critical thinking etc.



- Every Institution, Office or Organisation should define & frame their own job specific Standard Operating Procedure (SOP) in respect of usage & applications of AI tools all falling well within the Framework, Guidelines & Governance of their respective Governments in this regard.
- AI Tool & Application developers should append/attach an advisory to their products specifying Health Hazards if any involved as well specify age group restrictions & categories of end users.
- International bodies such as UNO, WHO, ILO etc as well respective Governments of various Countries in the World should formulate Policies & Guidelines at the National & Inter-national Levels to Monitor, Evaluate and Validate AI Tools & Applications as well provide measures to curb their design, development, availability and usage so that Safety, Privacy, Ethical & Moral values are ensured besides Social, Mental, Emotional & Psychological Health and wellbeing of the Society.
- Thus, by means of proper understanding of the impacts and implications highlighted as may be perceived from various research findings especially that of Over Exposure, Usage and Applications of AI and its Dependency, Psychological Impacts such as Anxiety, Stress and Depression could very well be avoided and prevented.

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