# Chapter 10
# The Influence of Artificial Intelligence on People With Autism Spectrum Disorder:
## A Methodical Literature Review

**Shushma G. B.**
*GITAM University, India*

**I. Jeena Jacob**
*GITAM University, India*

## ABSTRACT

*This literature review examines the past and recent relevant research on autism disorder. As undergoing many changes in the whole world, especially after the deadly effect of the COVID-19 widespread in the year 2020, has led to drastic adoption of more intelligent devices for quicker detection of certain human diseases and delivering the results quicker via electronic media, the research will focus on the autism disorder intelligent device detection and feed these data to machine learning models to predict the issues without human intervention. Based on the outcome of the results, the diseases can be treated accordingly in an appropriate manner. The individual suffering from autism disorder can be detected early using AI or machine learning, and this domain can be integrated with the IoT sensors. Such sensors can be combined with the human body, and this sensor will extract the data and send it to the centralized healthcare system. Such data will be removed from the data storage and processed using the AI algorithm to get the desirable results to give an appropriate treatment at the correct stages.*

## INTRODUCTION

ASD is a neurological syndrome that starts initial in the infant and continues during a human begin life. It disturbs how an individual acts, reacts, cooperates with other people, learns, and communicates (Gamaethige, 2017). The ASD is also known as "Asperger" syndrome and "pervasive" evolving disor-

ders. Pervasive developmental disorders fall into two categories: social skills communication and normal communication problems, and second confined and monotonous patterns of actions, interests, or activities. They are analyzing ASD can be challenging as there is no medical test to diagnose the disorders, like a blood test. Physicians look at the kid's activities and growth to make an identification. ASD can occasionally be spotted at 18 months or younger kids. By age 2, a diagnosis by a skilled person can be measured actual trustworthy. As even a few times there are human errors, to overcome these human errors, we propose in our research an intelligent device as well as analyses the machine-generated data using AI models the results values can detect the ASD at an early stage of childhood (Liu, 2013).

ASD will affect the intellectual functioning of the brain throughout the lifetime, and such disorder makes an individual with social and language communication issues or social interaction skills, memory summarizing, focus skills. These can be identified at the earlier stage of childhood and usually lead to deficiencies in effect growth of the child. Furthermore, these discrepancies have remained exposed to undesirably influence adaptive social behavior and operative. Consequently, initial analysis and interference are key elements so that in the future, these issues will not occur in the world population (Wedyan, 2016).

ASD is an extraordinarily predominant and harmful neuro-developmental syndrome that affects one out of twenty-four individual human beings over the world. In the recent several years, the analyses result from the frequency of ASD in the developing and non-developing nations has increased hypothetically, with the proper awareness of the ASD and initial treatment can reduce the ASD in most of the countries.

The ASD does not follow any ethnic, cultural, and regional groups, as similar to the COVID-19 outbreak, but in the case of the ASD, it can be earlier stages it can be detected (Orlandi, 2012), and doctors can take appropriate actions to treat the ASD disorder by giving proper medications for the ASD affected children, as figure 1, mentions the stages or levels of ADS severity as it has 3 phases, each phase will play a very critical role as sooner it's treated at level 1 stage then it's better and significantly more straightforward to cure the ASD disorder among the younger or early-born children's.

*Figure 1. Levels of the ASD disorder in the children's*
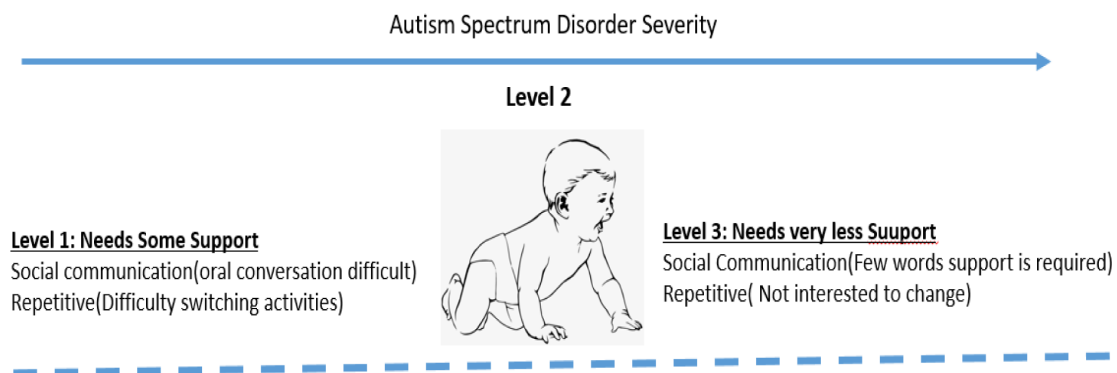


The ASD in males specifically at the age of 22 to 23 in the recent analysis's has been found, as the investigations are done not only the children but all the mid-age individual are also subjected to the ASD, from the female individual point of view it's closer to 3 is to 1 ratio, previously reported results

## Related Content

SODAC: A Simulation-Based Tool for the Optimal Design of Analog Circuits
Amin Sallem, Mourad Fakhfakh, Esteban Tlelo-Cuautleand Mourad Loulou (2012). *International Journal of Applied Metaheuristic Computing (pp. 64-83).*
www.irma-international.org/article/sodac-simulation-based-tool-optimal/74739

Movement Strategies for Multi-Objective Particle Swarm Optimization
S. Nguyenand V. Kachitvichyanukul (2010). *International Journal of Applied Metaheuristic Computing (pp. 59-79).*
www.irma-international.org/article/movement-strategies-multi-objective-particle/47376

Swarm Intelligence for Multiobjective Optimization of Extraction Process
T. Ganesan, I. Elamvazuthiand P. Vasant (2016). *Handbook of Research on Modern Optimization Algorithms and Applications in Engineering and Economics (pp. 516-544).*
www.irma-international.org/chapter/swarm-intelligence-for-multiobjective-optimization-of-extraction-process/147528

A New Approach in Short-Term Prediction of the Electrical Charge with Regression Models A Case Study
Farhad Soleimanian Gharehchopoghi, Freshte Dabaghchi Mokriand Maryam Molany (2013). *International Journal of Applied Metaheuristic Computing (pp. 34-46).*
www.irma-international.org/article/a-new-approach-in-short-term-prediction-of-the-electrical-charge-with-regression-models-a-case-study/96931

Bio-Inspired Algorithms: Devices for Diagnosis and Treatment of Parkinson's Disease
Sumit Kumar, Alka Baliand Nishu Bali (2022). *Bio-Inspired Algorithms and Devices for Treatment of Cognitive Diseases Using Future Technologies (pp. 1-22).*
www.irma-international.org/chapter/bio-inspired-algorithms/298801