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INFLUENCE OF AI'S ON SPORTS AND PERSONAL HEALTH PRACTICES AMONG LECTURERS IN FACULTY OF SCIENCE IN ALVAN IKOKU UNIVERSITY OF EDUCATION

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Abstract

Modern technology in the form of artificial intelligence has brought about a revolution in sports and personal health. The influence of AI in sport and personal health practices anchor on the second national development strategic objective investment of critical physical, financial, science and innovation infrastructure. The purpose of this study was to examine the perception of the faculty of science lecturers on the influence of AI on sport and personal health for National development. Three research questions guided the study. The study adopted a descriptive survey design. The population for the study was 137 comprising of the entire lecturers in the faculty of science. The sample of the study was 61 lecturers using proportional probability to size each department in the faculty. The instrument for data collection was influence of AI on sport and personal health practices questionnaire (IAISPHPQ). Mean and standard deviation were used for answering the research questions. The finding revealed that AI Influence sports and personal health to a great extent, it has the potential to result in the instability thereby kicking against the philosophy of national developed plan. The study recommended among others, that government should address the use of AI to ensure that AI benefits are realized without negative consequences.

Key words: Artificial Intelligence, Sport, Personal health practices and national development

Introduction

The study of the intelligence in machine is referred to as artificial intelligence (AI), which is commonly implemented in computer systems using programs through appropriate electronic circuits (Castagno & Khalifis 2020). Artificial intelligence sometimes called machine intelligence is intelligence demonstrated by machines in contrast to natural intelligence displayed by humans and other animals. (McCorduck, 2004). AI is a machine which is able to learn and think like human beings; which is able to emulate cognitive human tasks (Jarrahi, 2018). Gelbukha and Monroy (2005) opined that AI is a branch of computer science aimed at providing the computer element of human like-behavior such as ability to think, learn by example, doubt, act, see and speak. This implies that machines can be made to perform tasks associated with intelligent being like human and animals. Since the development of the digital computer in the 1940s, it has been demonstrated that computer can be programmed to carry out very complex tasks like discovery proofs for mathematical theorems and playing chess/table tennis with great proficiency. AI has been studied for decades and is still one of the most challenging concepts in

sports and personal health practices. It is taking the world by storm, considering the application of its inevitable use across sports and personal health and its practices.

However, the present digital dispensation has altered sports and personal health practices entirely. Sports is an activity that people do to maintain their physical and mental health, socialize and have fun. The emergence of AI has brought about efficiency in sport by providing athletes with performance enhancement facility, preparing training and diet plans, analyzing games and developing strategies, Officiating, scouting and recruiting players, predicting matches, selling tickets and even sport journalism despite minor challenges.

According to Fu, Zhao and Wuz (2013), AI application used in today's sport world are categorized into four; Chatbots, computer vision, automatic journalism and wearable technology. Chatbots are used in sports field to answer fan questions on a wide range of topics, including live game information, team statistics, Gym and Stadium information (Kumba, 2019). Chatbots can also help athletes track their daily calories intake, suggest meal plan, and remind them to stay hydrated and take the necessary supplements. Chatbots can also teach athletes the importance of nutrition in recovery (Fu et-al, 2013). Computer vision is an AI field that focuses on enabling computer to interpret and understand the visual world. It involves developing algorithms and techniques that allow computer to recognize and interpret images and video. Computer vision can process image and video. Computer vision can process image data from different sources such as cameras, sensors and other devices (Kaya, 2023). Computer vision is used in different areas in the sports world. Computer vision is used to perform detailed and complex analysis in sports such as football, basketball, cricket, badminton & volleyball. This technology is used in sport for detecting and classifying players or balls, recognizing team strategies and classifying various events in sports (Nalk, Hashmi & Bokde, 2022). Boesch (2023) opined that computer vision is also used to help referee decisions. Robot Journalism is a term used to describe the use of automated software programs to create new articles (Nat Linden, 2017) called automated journalism in sports world; a method as media outlets use to reach their customers interested in sports and increase their revenues but using AI focused automation (Graefe, 2016). Wearable technology is the general name for technological devices/gadgets that can be worn by humans and loaded with smart sensors that track body movements (Godfery, Hethernyton, Slum, Banato, Lovell & Stuart, 2018). Examples of wearable technology in sports include the following; athlete's bracelets, watches, accelerometers, activity trackers, communication gadgets & pedometers (Jain & Jain, 2019).

Personal health practices are individual health practices that prevent disease and encourage self-care, coping with obstacles, decreasing problems and adopting health-enhancing choices. Personal health practices involve simple habits like healthy diet, good sleep, regular physical action, exercises and stress management. Contextually, personal health practices refer to all of the steps a person can take to have a good health such as; hygiene, nutrition and seeking medical attention. The emergence of AI in health practices provides opportunities to help reduce human error assist medical professionals and staff and provide patient services. As AI tools continue to

develop, there is potential to use AI even, more in reading medical images, X-rays, scans, diagnosing medical problem and treatment plans. AI systems can analyze patterns in a patient's medical history and current health data to predict potential health risks. The predictive capability of AI enables healthcare providers to offer proactive preventive care, ultimately leading to better patient outcome and reduced healthcare cost. The emergence of artificial intelligence (AI) in health care has been ground breaking, reshaping how disease are diagnosed more effectively, treated and monitored. AI is improving health care research by producing more accurate diagnoses and enabling more personalized treatment. AI is promising to be a game changer leading the way towards a future where patient receives quality care and treat more accurately than even before. AI role to personal health can be summarized under machine learning, natural language processing (NLP), diagnosis and treatment application and administrative application. In machine learning, AI process, large amounts of clinical documentations, identify patterns and make predictions about medical outcomes with greater accuracy than ever before. This helps to improve treatment and reduce cost. With AI there is accurate diagnose of illness and customize treatment to individual patient's needs. Natural language processing (NLP) is a form of artificial intelligence that enables computers to interpret and use human language. NLP is used to identify relevant treatment and medications for each patient or even predict potential health risks based on past health data. Diagnosis and treatment of disease has been at the core of artificial intelligence. Administrative aspects of healthcare have been taken over by AI. Some tasks such as data entry, processing and appointments scheduling. AI provides faster way to review health records, medical imaging, processing and test results.

Despite the advancements of AI, Lecturers perception towards the influence of AI seems to be negative; still laggins behind on the positive influence on sports and personal health. Many lecturers are bedeviling in catching up with the fast growing technology solutions. Some people consider artificial intelligence (AI) to be a danger to humanity if it progress unabated. Others believe that artificial intelligence (AI) unlike previous technological revolutions will create a risk of mass unemployment which would invariably kick against philosophy of government on national development. Government will unlock all constraints to ensure that economic growth is enhanced, inclusive and sustainable over the plan period and beyond to generate employment and reduce poverty. Though AI tries to fulfill one out of the four strategies objectives of national development plan. "Investment of critical physical, financial, science and innovative infrastructure." If much emphasis is being laid on AI in all aspects of human endeavour especially in sport and health practices, then where lies the natural intelligence of humans beings and animals?

The study of the influence of AI is anchored on the theory of the mind. Theory of the mind (AI) involves building mental models of the intelligent entities which are human beings at this point. It refers to the ability of agents, and to use this information to predict their actions and behaviors. In the context of artificial intelligence, theory of mind refers to the ability of an agent to infer the knowledge and intentions of other agents and use this information to predict their actions.

Purpose of the study

The main purpose of the study is to determine the perceived influence of AI on Sports and personal health practices among faculty of Science lecturers in Alvan Ikoku Federal University of Education Owerri. Specifically, the study aims to:

- i. Assess the extent of influence of AI on sports;
- ii. assess the extent of influence of AI in personal health practice;
- iii. Investigate the extent of AI influence on sport personal health practices for national development.

Research Questions

The following research questions guided the study.

- i. What is the extent of AI influence on sport?
- ii. What is the extent of AI on personal health?
- iii. What is the extent of the influence of AI on sports & personal health for national development?

Statement of the Problem

In this study, the researchers considered artificial intelligence as configuration of modern technology in a way that it mimics human activities with a high level of accuracy and avoids bias with little or without human participation. The use of artificial intelligence in sports and general health practices is a new advancement in the country. AI application in sports is meant to promote sports, transcending the possibilities to ease life; heading to a new era of artificial intelligence. It is meant to enrich sport and general personal life by personalization of training in sports, monitoring health status and movement pattern of an individual child and talent detection and identification. It is expected that the introduction of AI in sport and general health should have a positive impact on sport and general health.

Despite the advancement of AI on sports and personal health, it appears that lecturers still lag behind on the influence of AI. It poses a threat that AI Uttered sports & personal health practices. In other words, human beings are then subjected to robotics thereby denying them their human contribution to the development of themselves and environment where the find themselves making them AI dependents hence the investigation on the influence. Furthermore, there have not been a study that precisely provide insight to the local situation and realities, particularly as it influences on sports and general health among teaching staff in the faculty of education, Alvan Ikoku University of Education, Owerri. This indicates that there is paucity of empirical literature on the perception of faculty of education lecturers on the influence of AI on sports and general health practices. It is this gap in the knowledge that this study is design to fill.

Significance of the Study

This study has both theoretical and practical significance. Theoretically, the findings will help to verify and sustain the relevance of the theory of mind (Premack & Woodruff 1978) which posits that building mental models of other intelligent entities which are human beings at this point. In the context of this study this theory of mind refers to the ability of an agent to infer with the knowledge and intentions of the other agents and to use this information to predict their actions and behaviour. This study will be to faculty of science lecturer of the university, academic planners and future researchers. The findings of this study will help faculty of science lecturers understand and appreciate the importance of artificial intelligence to national development.

It will enable lecturers understand that AI are made to assist and not to harass. This study remains an eye opener to school academic planning unit to have understanding on the influence of AI on sport and personal health practice. These understandings will help them realize the influence AI can make to the school activities. The findings of this study will ensure that future researchers are assisted in the review of empirical studies as it contributes to the existing knowledge.

Scope of the Study

This study was carried out in Alvan Ikoku University of Education, Owerri. The study involved lecturers in Faculty of Sciences in Alvan Ikoku Federal University of Education. The content scope considered the influence of AI on sports and health practices and the extent of perceived influence of sport and personal health practices on national development.

Method

The design of the study is descriptive survey design which aimed at finding out the perception of faculty of science lecturers as regards to the influence of AI on sports and personal health practices on national development in Alvan Ikoku Federal University of Education. The population of the study comprised all 137 lecturers in the faculty of science. The sample of the study was 61 lecturers made up of 44 percent of the population accommodating each department in the faculty. Self-structured questionnaire was the instrument used to collect data for the study. The instrument has two sections, A and B. Section A sought information on the personal data of the respondent. Section B has 15 items in three clusters of A, B & C clusters have response options of the Very high extent (VHE) High extent (HE) Low extent (LE) and Very low extent (VLE). The questionnaire was validated by 3 experts in physical and health education department Alvan Ikoku Federal University of Education Owerri. The questionnaire was administered to and collected from lecturers directly by the researchers. The data collected were analyzed using mean and standard deviation. The decision rule was that any mean score of 2.50 and above was accepted while any mean score below 2.50 was rejected.

Results

The results of the data analysis based on the three researcher’s questions that guided the study

Research question one

What is the extent of AI influence on sports?

Response on the extent of AI influence on sports

Table 1: Mean ratings on the extent of AI influence on sport.

S/N	ITEMS	X	SD	DEC
1.	There is a tendency of sports officials losing their jobs.	3.58	1.79	VHE
2.	There is lack of transparency in artificial intelligence decision making.	3.68	1.88	VHE
3.	AI can help reduce academic workload/stress.	3.63	1.84	VHE
4.	There will be reduction of creativity and critical thinking skills among lecturer in physical and health education department.	3.75	1.94	VHE
5.	The inclusion of AI in sport is working against objectives of national development.	3.58	1.79	VHE
CLUSTER MEAN =		3.64		

Data presented on table 1 above showed the mean rating on the extent of AI influence on sport. Based on the data above, the respondents share the view to a very high extent of AI influence on sport. The cluster mean 3.64 indicates that AI influence sports to great extent.

Research question 2

What is the extent of all influence on personal health?

Table 2: Mean rating on the extent of AI influence in personal health.

S/N	ITEMS	X	SD	DEC
1.	There will be loss of human decision making capabilities.	3.01	1.42	HE
2.	AI creates laziness among professionals.	3.31	1.59	HE
		3.64	1.84	VHE
3.	They may be serious privacy issues with the use of AI	3.25	1.55	HE
4.	AI increases security	3.36	1.63	HE
5.	The inclusion of AI to personal health practices is working against national developmental plan			
CLUSTER MEAN =		3.31	2.09	

The data on table 2 showed the mean rational on the extent of AI influence on data, the respondents share the view that AI influence personal health to a high extent. This is further indicated by cluster means of 3.31.

Research question 3

What is the extent of the influence of AI on sport and personal health for national development?

Table 3: Mean rating on the extent of the influence of AI on sports and personal health for national development.

S/N	ITEMS	X	SD	DEC
1.	The inclusion of AI to sport and personal health overwhelm and hinder productivity.	3.18	1.51	HE
2.	It eliminates many jobs thereby kicking against national development.	3.31	1.57	HE
3.	There will lower labour demand leading to lower wages in sports and health education	3.30	1.59	HE
4.	use of will result to will reduce productivity	3.18	1.51	HE
5.	There will be general negative effects on labour markets	3.20	1.52	HE
	CLUSTER MEAN	3.31	2.09	

Data presented on table 3 showed the mean rating on the extent of the influence of AI on sport and personal health for national development. Based on the data, the respondent share the view that AI influence sports and personal health positively or negatively for national development.

Discussion

With reference to research question one; on the extent of AI influence of sport, evidence from the findings revealed that to a very high extent there is tendency of sports officials losing their jobs, lack of transparency in decision making, reduce academic work and stress and reduction of creativity and critical thinking skills. The respondents also share the view that, to high extent the inclusion of AI in sport is working against the objectives of national development. The findings do not agree with the finding of Attwood, Bruster and Brust (2018) that artificial intelligence assists in classroom management.

The findings disagree with the findings of Jain & Jain (2019) that implementing AI in higher education institution enhances students learning capacities and AI holds a massive prospect for higher education sector. The finding of smith and Anderson (2017) revealed that two thirds of Americans expect that within 50 years robots and computer will do much work

currently done by humans and that 72% are worried about such a future. This result is expected and not surprising based on the economy of the nation. This is because Nigerians has what it takes to embrace innovation and let it jeopardize his or her work. So there is need to embark on the use of AI campaign in the campus.

The result of research question two, on the extent of AI influence on personal health practices evidence from the findings revealed that AI influence health practices to high extent. There will be loss of human decision making capability which might increase laziness among professionals in health. The respondents also share the view that to high extent there may be serious lack of privacy with the use of AI. The findings of this study, agrees with the finding of the study (Castigno & khalitrs, 2020) that AI is more dangerous than nuclear weapon and supports that there may be serious privacy issues associated with the use of AI. The results of the research question three revealed that AI influence sports and personal health practice for national development. Furthermore, the respondents agree that the inclusion of AI in sports and adoption of health practices will overwhelm and hinder productivity which will lead to general negative effects on labour market.

Conclusions

Despite agreeing on the usefulness of AI in sports and health practices, most lecturers lack a good understanding of the influence of AI, they are worried about potential consequences of its widespread used in sports and personal health practices. The research reveals the deficit of the perception of influence of AI in sports and personal health practices. The co-operations of lecturers are crucial for integration of AI into teaching/learning process. Ignoring the updated curriculum integrated with AI, sports and personal health practices may avert the potential benefits of AI and its and huge opportunity associated with AI in the digital world of technology exceptionally recording opportunity.

Recommendation

- i. Faculty of sciences in Alvan Ikoju Federal University of Education should organize workshops, seminar for lecturers to further enlighten the them on the importance of artificial intelligence
- ii. Physical and health education lecturers should embrace artificial intelligence believing every field of human Endeavour.

References

- Boesch, G. (2023) computer vision in sports use cases in 2023 retrieved 01.07.2023 from <http://viso.ai/application/visual-91-in-sport>.
- Castagno, S. and Khalifis .M (2020) perceptions of artificial intelligences among healthcare staff; A Qualitative survey study. *Medicine and public health, Journal frontres in Artificial intelligence intell.*3.578983 doi: 10.3389
- Fu.Q, Zhao H., Wuz.z (2013) application of motion capture technology in sports simulation, *journal of shaxi dapture university (National science edition)* 29 (05), 81 -84.
- Gelbukha, & Monroy (2005) the AI digital revolutions in innovation: A conceptual technologies for the managements of innovation. 10.1109/TEM.2021.3109983 *IEEE Transactions on engineering managements*.
- Godfrey, A., Hetherington, V. Shum, H., Bonato, P., Lovell, N.H, & Stuart, S. (2018). From A-Z wearable technology explained. *Maturitas*, 113-40-47.
- Grafe, A. (2016) Guide to automated journalism. Columbia journalism school. <https://doi.org/10.7916/D80G3XDJ>
- Jain, S. & Jain, R (2019) role of artificial intelligence in higher education: An empirical investigation. *IJRAR International journal of research and analytical reviews* 6(2) retrieved from http://ijrar.com/upload_issue/ijrar_issue_20544669
- Jarrahi. M. H. (2018) artificial intelligence and the future of work: human AI symbiosis in organizational decision making: business horizons, Elsevier, vol.61 (4) pages 577-586
- Kaya, F. (2023) artificial intelligence and its use in sports *Bilmleri ve Egzersizde Butunsal Yaklisimler* ISBN 9786253653248
- Kumba, S. (2019) Artificial intelligence in sports currents and future application. Retrieved 21.08. 2023 from <https://emerj.com/ai-sector-overviews/artificial-intelligence-in-sports>
- Linden, T. C, G, (2017) Algorithms for journalism: the future of news work. *The journal of media innovations*. 4.1 (2017) 60-76. Do i: <http://doi.org/10.5617/jmi141/2420>
- Mccorduck, P. (2004) machine who think. *Artificial intelligence* PP 340-400
- Nalk, B. T., Hashmi, M.F, & Bokde, N.D (2022) A comprehensive review of computer vision in sport: open issues, future trends and research directions *applied sciences*, 12(9), 4429.
- Premark, D. & Woodruff, G (1978) does the chimpanzee have a theory of mind, *behavioral and brain sciences*, 1, 515-526
- Sercek, S., Korknaz M. (2023) spordo Giyilebilir Teknoloji Uzerine Sistemakk B. *Literatur Taramasi, Uluslararası Gincel Egitim Arastirmatari Derais (UGFAD)*. 9(i): 77-92
- Smith, C. (2006). *The Turing test. Washington I History of computing CSEP590A*