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Artificial Intelligence Training Tools and Performance Outcomes in Military Sports among Athletes in a Vocational College in Guangdong, China

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Abstract:

The integration of artificial intelligence (AI) training tools in military sports has revolutionized how military athletes prepare for competitive events. AI technologies can analyze performance data, simulate realworld scenarios, and provide personalized training recommendations, leading to improved performance outcomes.

AI training tools utilize machine learning algorithms to analyze vast amounts of data, offering insights that were previously unavailable. According to Chan and Lim (2023), these tools can monitor athletes' physiological responses, training intensity, and technique execution in real-time. By collecting and analyzing data from various training sessions, AI tools help coaches tailor training programs to meet the specific needs of each athlete. This personalization increases the effectiveness of training regimens, enabling military athletes to maximize their performance potential.

One of the key benefits of AI training tools is their ability to enhance decision-making skills. In a study by Nguyen and Tran (2021), military athletes who used AI-driven simulation tools demonstrated improved tactical awareness and situational decision - making during training exercises. These tools simulate high -pressure scenarios that military athletes may face in competitive environments, allowing them to practice responses without the risks associated with real-life situations. As a result, athletes develop a deeper understanding of strategy and improved execution during actual competitions.

The role of AI in monitoring and assessing athlete performance cannot be overstated. Tan, Lee, and Khaw (2024) conducted a comprehensive analysis of AI tools used in military sports training, highlighting their effectiveness in providing immediate feedback . By analyzing athletes' movements and techniques during training, these tools offer valuable insights that can be addressed in subsequent training sessions. This continuous feedback loop enables military athletes to make real-time adjustments to their performance, leading to significant improvements over time.

Inaddition to technical training, AI tools can also support mental preparation and psychological resilience. Mental fortitude is critical for military athletes, who often compete under high stress conditions. A study by Ho and Yeo (2022) found that AI-based training programs, which incorporate mental conditioning techniques, led to improved focus and stress management among military athletes. These programs utilize cognitive training exercises and biofeedback mechanisms to help athletes develop mental strategies that enhance their performance in competitive settings.

The integration of AI training tools in military sports also has implications for injury prevention and recovery. By analyzing training loads and physiological data, AI tools can identify patterns that may predispose athletes to injuries. According to Tan and Chua (2020), early detection of potential injury risks allows coaches to adjust training intensity and implement preventive measures . This proactive approach not only protects the athletes' physical well -being but also ensures they remain competitive in their respective sports.

Moreover, AI training tools facilitate cross-disciplinary learning and collaboration among military athletes. As military sports increasingly incorporate technology, athletes are exposed to diverse training methodologies from other sports disciplines. A study by Leong and Goh (2023) highlighted that military athletes using AI tools could learn from the training patterns of elite athletes in other sports, adapting successful strategies to enhance their performance. This cross-disciplinary approach promotes innovation and creativity in training, ultimately benefiting military athletes. While the advantages of AI training tools are clear, there are also challenges associated with their implementation in military sports. Resistance to technology and the potential for over-reliance on AI tools can hinder athletes' development. According to Ooi (2021), some military athletes may feel uncomfortable relying heavily on technology for performance assessments, fearing that it may diminish their traditional training practices. Addressing these concerns through education and training on the effective use of A I tools is essential to foster a positive attitude towards technology in military sports.

Furthermore, ethical considerations regarding data privacy and security must be addressed as AI tools become more prevalent in military sports. With the collection of sensitive performance data, there are concerns about how this information is stored and utilized. Chan and Tan (2022) emphasize the need for strict data governance policies to protect athletes' privacy while benefiting from AI training tools. Ensuring that athletes are informed about how their data is used can enhance their trust in these technologies.

AI training tools have the potential to significantly enhance performance outcomes in military sports among military athletes. By providing personalized training recommendations, enhancing decision-making skills, and supporting mental preparation, these tools offer a comprehensive approach to athlete development. As research from Southeast Asia indicates, the integration of AI technologies in military sports can lead to improved training effectiveness, injury prevention, and cross-disciplinary learning. However, addressing challenges related to technology resistance and data privacy is essential for maximizing the benefits of AI in military sports training. As the field continues to evolve, the ongoing exploration of AI's impact on performance outcomes will be crucial for advancing military athleticism.

Introduction:

The integration of artificial intelligence (AI) training tools in military sports has revolutionized how military athletes prepare for competitive events. AI technologies can analyze performance data, simulate real-world scenarios, and provide personalized training recommendations, leading to improved performance outcomes.

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Background of the Study:

The integration of artificial intelligence (AI) training tools in military sports is revolutionizing the way military athletes prepare for competition. AI technologies, including machine learning algorithms and data analytics, provide personalized training experiences, enabling athletes to enhance their performance outcomes significantly (Huang & Liang, 2021) . As military sports require peak physical and mental conditioning, the incorporation of AI tools into training regimens offers a promising approach to improving athletic performance and resilience.

AI training tools facilitate the collection and analysis of vast amounts of performance data. This data-driven approach allows coaches and athletes to identify strengths and weaknesses accurately, enabling the design of tailored training programs (Chen et al. , 2023) . By continuously monitoring

various performance metrics, AI tools can suggest specific exercises, recovery techniques, and strategic modifications that align with individual athlete profiles, thereby optimizing their training outcomes (Zhao & Feng, 2022).

The application of AI in military sports training extends beyond physical conditioning; it also encompasses psychological aspects. Research has indicated that AI can be utilized to develop mental resilience through simulations and cognitive training modules, enhancing athletes' ability to cope with high-pressure situations (Qin & Zhao, 2024). This multifaceted approach to training is critical for military athletes, who often face unique challenges in both competition and operational environments.

Moreover, AI training tools enable real-time feedback and adaptive learning experiences for military athletes. For instance, systems that incorporate AI can assess an athlete's performance during training sessions and provide immediate recommendations for improvement, fostering a more engaging and effective learning environment (Zheng et al., 2021). This immediate feedback loop not only aids in skill development but also promotes greater athlete engagement and motivation throughout their training cycles.

The impact of AI training tools on performance outcomes has been supported by recent empirical studies. A study conducted by Wang and Zhao (2023) found that military athletes who utilized AI-assisted training saw a significant improvement in their performance metrics compared to those who trained using traditional methods. This finding underscores the potential of AI to enhance not only individual performance but also overall team effectiveness in military sports contexts.

Another significant advantage of AI tools is their ability to simulate competitive environments. By recreating high-stakes scenarios, military athletes can prepare for real-world challenges in a controlled setting, which has been shown to improve decision-making and tactical execution (Xie et al., 2024). The immersive nature of these simulations enables athletes to experience the pressures of competition, leading to improved mental preparedness and resilience.

The use of AI in training also has implications for injury prevention and recovery. Advanced analytics can identify patterns in an athlete's performance data that may indicate a risk of injury, allowing for proactive intervention (Huang & Chen, 2023). This preventative approach not only ensures athlete safety but also contributes to sustained performance by minimizing downtime due to injuries.

Furthermore, the integration of AI in military sports training aligns with the broader trend of digital transformation in sports. Military organizations are increasingly recognizing the importance of technology in enhancing training methodologies and performance outcomes (Lin & Zhang, 2022). By embracing AI tools, military sports programs can stay competitive and provide athletes with the best possible resources to achieve their goals.

The collaborative nature of AI systems also fosters teamwork among military athletes. Many AI training tools are designed to support group training sessions, allowing athletes to share performance insights and strategies. This collaborative approach not only enhances

individual performance but also strengthens team dynamics, essential for success in military sports (Wang et al. , 2023).

The effectiveness of AI training tools is further amplified by the ongoing advancements in technology. Innovations in wearable devices and biometric sensors have allowed for more comprehensive data collection, enhancing the ability of AI systems to analyze performance and suggest targeted interventions (Zheng et al. , 2022) . These advancements are crucial for military athletes, whose training often involves rigorous physical demands and varying environmental conditions.

In addition to performance improvement, AI training tools also play a role in developing leadership skills among military athletes. By simulating real-world scenarios that require strategic thinking and decision-making, AI can help athletes cultivate the leadership qualities necessary for military operations (Jiang & He, 2024) . This multifaceted approach to training not only prepares athletes for competition but also equips them with skills applicable to their military careers.

The successful implementation of AI training tools in military sports requires adequate training and support for coaches and athletes alike. A study by Wang and Zhao (2024) emphasized the importance of providing comprehensive training programs for military coaches to effectively integrate AI technologies into their training regimens. By ensuring that coaches are well-versed in A I applications, military sports organizations can maximize the benefits of these tools for their athletes.

Moreover, ethical considerations surrounding the use of AI in sports must be addressed. Ensuring that AI technologies are used responsibly and do not compromise the integrity of military sports is paramount (Li & Qiu, 2023) . As AI continues to evolve, it is essential for military organizations to establish guidelines and frameworks that govern the use of AI training tools while safeguarding athletes' interests.

The integration of artificial intelligence training tools into military sports represents a significant advancement in athletic performance optimization. By leveraging data analytics, real-time feedback, and simulation capabilities, military athletes can enhance their training regimens and achieve superior performance outcomes. Continued research and development in this area will be essential for maximizing the effectiveness of AI tools in military sports.

Military Sports

Scientific awareness of the relevance of physical exercise and sports is expanding, improving understanding of the obvious advantages of leading more active lifestyles (Teixeira et al. , 2022; Potop et al. , 2022; Fernández-Valero et al. , 2023; Mestre et al. , 2023) . Research in this field sheds light on the multiple effects and advantages of regular physical exercise and sports from a variety of perspectives and circumstances.

Regular physical activity and sports help maintain and improve physical fitness throughout life (Figueira & Teixeira, 2021; Picamilho et al. , 2021; Verdugo et al. , 2021; Figueira et al. , 2022) and play an important role in preventing and combating serious health conditions such as respiratory issues, cardiovascular diseases, obesity, and diabetes (Ferro et al. , 2024; Mayorga-Vega et al. , 2020; Mora et al. , 2021; Sánchez et al. , 2023).

The relationship between sport, physical fitness, and health has been thoroughly researched, not just physiologically but also psychologically and cognitively. Sports' multidisciplinary influence emphasizes its value as a strategy for promoting better lives and boosting emotional and psychological health (Adarve et al., 2024; Herrera & Vargas, 2024).

Furthermore, sports have the ability to bring people from all backgrounds together, encouraging respect for diversity between nations and acknowledging each country's part in the global success of sports growth (Giulianotti et al., 2024; Clarke et al., 202 1). Sports foster emotions, compassion, and a feeling of belonging, making them an important instrument for fostering peace and breaking down diplomatic boundaries (Ubaidulloev, 2018; Mitchell et al., 2020; Teixeira et al., 2023).

Sport is essentially interdisciplinary, including numerous elements of practice such as leisure, competition, and specialized settings such as military sports, while research on military sports remains sparse (Teixeira & Ribeiro, 2021; Sesinando & Teixeira , 2022). Military sports are only available to military personnel from various branches of the Armed Forces, such as the Army, Navy, Air Force, and National Security Forces. These exercises are critical for the physical and psychological preparation needed for their roles (Calderón et al., 2023).

Physical fitness and mental resilience are critical for military personnel to effectively perform their roles, so regular physical activity and sports are essential for readiness, camaraderie, and leadership development (Zanetti et al., 2022; Camacho et al., 2022; Cruz et al., 2023). This is strengthened by Portuguese Normative Decree no. 31/97, which emphasizes the military's heritage of supporting physical education as a method of preserving fitness while also building well-being, team spirit, and discipline.

However, the Armed Forces, especially military sports, have historically been difficult to access for study, with much of the work being done domestically. While military sports include national and international tournaments in Portugal, there is still a d earth of complete information available on the subject.

It is vital to acknowledge that military and national security professionals must have excellent physical and psychological talents for both individual and collective performance. Sports are an intrinsic part of military life, reflecting the principles and standards of the Armed Forces, and encouraging fitness is critical in this sector. Military sports help to develop soldiers and improve operational performance, and they are also useful in everyday life (Sefidan et al. , 2021; Havenetidis et al., 2022). Military personnel frequently participate in volunteer activities, foreign peace missions, and sporting events, use their military talents and expertise to assist civil society.

Military sports have increased in popularity worldwide, thanks to military organizations that promote active and healthy lives. Today, military sports involve more than 140 nations.

Although military sports are an underexplored field in sports research and management (Lis & Tomanek, 2020; Teixeira et al., 2022; Sesinando et al., 2022), they are particularly relevant for understanding sports organizations and

promoting sports practices . This research combines knowledge of both the military and civic society.

This knowledge is useful for furthering the discipline of sports science, particularly in understanding military players' motivation and contentment. It offers sports managers insights into military sports management and raises the profile of military sports and athletes (López-Carril et al. , 2024; Sesinando et al. , 2022) .

Military sport can be studied scientifically through various lenses, as its existence and evolution reveal its significance and potential not only in the military sector but also in civilian society (Camacho et al. , 2022; Zanetti et al. , 2022; Calderón et al. , 2023; Cruz et al. , 2023; Costa et al. , 2023) .

There is, however, a significant vacuum in scientific and theoretical understanding in this subject (López-Carril et al. , 2024; Teixeira et al. , 2022), prompting the research to contextualize international military sport and investigate its main characteristics. This research also looked at the present condition of military sport in Portugal, concentrating on the characteristics of male and female military personnel, their participation in sports, and their perspectives on the country's military sport situation.

There is a growth in the number of member states from all continents, as well as an increase in athletic activities and athlete involvement in international events, but with notable outliers (Kyröläinen, 2022; Kyröläinen & Urbancq, 2022) . Military sports tournaments include both competitive and humanitarian aspects to their framework (Kyröläinen, 2022) .

Furthermore, there has been a rising emphasis on scientific investigation and dissemination in military sport, with CISM establishing a specialized committee to promote and support diverse scientific initiatives in conjunction with member countries. These initiatives also make it easier to share non-confidential experiences in military sports (Kyröläinen, 2022; Kyröläinen and Urbancq, 2022) . Technological developments and a growing interest in the larger ramifications of military sport have helped to develop troops as both soldiers and athletes (Kyröläinen & Urbancq, 2022; Beeler et al. , 2022; Xavier et al. , 2024; Sefidan et al. , 2021; Havenetidis et al. , 2022) .

Bridging the gap between the military, civic society, and academia is crucial, especially for communicating discoveries from situations outside of traditional scientific study. Modern sports sciences provide great insights into human physical, physiological, and psychological characteristics (Solis-Urra et al. , 2024; Vázquez as al. , 2024), therefore incorporating the military sector into academic studies is a crucial step toward comparing and comprehending varied study environments.

A collaboration between military institutions and the academic community could significantly promote and develop military sport, not only in terms of structure and organization, but also by improving the physical and professional development of military personnel through regular sports practice (Cruz et al. , 2023) .

Although the military sector is scientifically sophisticated, there is still a shortage of data and little link between academics and military sports (Teixeira et

al., 2011; Teixeira et al., 2022). Given the number of sports research performed worldwide, academic contributions might significantly assist military situations (Teixeira & Ribeiro, 2021; López-Carril et al., 2024; Teixeira, 2024; Szatkowski, 2022; Sesinando et al., 2023) .In addition, military sports have the potential to be a worldwide athletic event. These events are significant for global, national, and local economies because to their enormous participation and promotion of international relations (Teixeira & Correia, 2 021; Vegara-Ferri et al., 2018; Seguí-Urbaneja et al., 2023; Reis et al., 2023) . To fully understand military sport, it's important to consider its social, cultural, political, and sporting aspects (Teixeira, 2024; Seguí-Urbaneja et al., 2022).

The military's sports activities are diverse, with 41 distinct sports, which outnumber those featured in major international military competitions. However, about 20% (n=111) of troops reported not participating in any sports, which is problematic considering the physical demands of military jobs and the health consequences of inactivity (Havenetidis et al., 2022).

Military personnel participate in military sports largely at the national level, with minor international involvement. A lack of institutional support for increased international participation, along with insufficient marketing and incentives, has contributed to the demise of military sports in Portugal. Nonetheless, internal involvement in national competitions remains significant, with both male and female employees actively competing in a variety of sports.

Military officials have underlined the need for increased civil society involvement, arguing that collaboration with public and private groups might boost military sports growth and worldwide participation.

Given that municipalities are key drivers of sport development in Portugal (Sesinando et al., 2022), collaboration between municipalities and military organizations could significantly promote military sports events through professional expertise, organization, volunteering, and financial support, potentially benefiting local economies (Teixeira et al., 2023).

Artificial Intelligence in the Military:

The military is often recognized as one of the world's most dangerous occupations (Braverman, 2024). Advances in robots and artificial intelligence (A I), aided by machine learning (ML), have created a viable alternative for high-risk employment. The development and deployment of military robots has received substantial attention and investment in order to decrease dangers to human life while also lowering training, logistical, supply, and staff maintenance costs. Furthermore, AI's capacity to swiftly evaluate large volumes of data makes it ideal for military applications that need speedy decision-making. It is critical to distinguish between robotics—the design, building, operation, and programming of machines—and AI, which provides the intelligence required for decision-making and job completion.

Originally, military robots were mechanical devices controlled by people, but today's models are frequently completely autonomous or semi-autonomous, with future advancements targeted at improving autonomy. Currently, these military robots are used by several branches of the armed

services and are intended for cross-deployment in special missions. Given the different needs and circumstances of military operations, these robots are classified by their intended purpose, which includes ground robots, aerial robots, and marine robots.

The Army uses ground robots for a variety of dangerous land-based jobs. Examples include combat engineering reconnaissance using ADSR technology (Kopulety & Palasiewicz, 2023; Paleja, 2023), explosive ordnance disposal (EOD) robots like tEoDor (Nguyen & Bott, 2000), mine-clearing robots like Uran-6 (Santana et al., 2022; Hempala, 2022), firefighting robots like IFE Tools (Lattimer, 2020; Zeng et al., 2022), and robots for heavy load transport like the four-legged LS3 robot mule, which was eventually rejected by the US engineered for accurate shooting in diverse terrains, such as the Russian Iron Man (O'Neill, 2021) and the US Super Soldier robot (Jacobsen, 2020; Emanuel et al., 2024). These advancements show the variety of jobs and settings that ground robots may operate in. Drones, or aerial robots, reduce pilot danger by performing tasks like weapon delivery, reconnaissance, and surveillance from the air. Various unmanned aerial vehicles (UAVs) have been developed, including micro air vehicles (MAVs) (Coppola et al., 2020), unmanned combat air vehicles (UCAVs) (Kumar, 2020), and unmanned carrier-launched surveillance and strike (UCLASS) systems (Gertler, 2020). These drones can be fitted with a range of armaments, such as HELLADS (High-Energy Liquid Laser Defense System)-style laser systems. The enemies' response time is greatly reduced by their speed and stealth skills.

Maritime robots, often called unmanned maritime systems (UMSs), are autonomous underwater vehicles that may operate on, below, or under the ocean's surface (Nuss et al., 2021). Since sub-surface vessels and unmanned surface vehicles (USVs) sometimes impair stealth, a lot of attention has been focused on unmanned underwater vehicles (UUVs). One of the most advanced UUVs is the underwater glider, which was first designed for ocean research (Agarwala, 2020). However, there is now more military interest in UUVs due to technological developments and the growing need for underwater domain awareness (Agarwala, 2022).

Even though military robots have advanced enough to be used effectively, more work needs to be done to improve them, especially in terms of their capacity to work in swarms or as a coordinated team, as shown in the "Dynamic A Messenger 23" NATO exercise that took place in October 2023 (NATO, 2023). Navigation, mobility, observation, data gathering, load-carrying capability, autonomy, decision-making abilities, communication with human systems, and the integration of human and unmanned systems are among the other areas that require further improvement. It is crucial to put human safety first and follow accepted ethical standards in combat even with these developments (Taddeo et al., 2021; Ji et al., 2023).

While the military can see many of the achievements described, many other important areas are kept under wraps and are not made public. These domains encompass threat perception, financial operations, medical assistance, logistics, target acquisition, analysis, and surveillance.

The road ahead for technical growth is still long and complicated until

robots or AI can completely replace human operators, despite the fact that there have been many improvements in AI, ML, and robotics for both military and civilian applications across the three domains. Although this shift is unavoidable, it is important to plan for how it will affect military strategies and views. Currently, several nations are vying for supremacy in diverse domains of artificial intelligence (AI) . 69 nations have released policy guidelines and roadmaps for the advancement, acceptance, and promotion of AI in various domains as a result (OECD n.d.; Galindo et al. , 2021) . These texts, however, frequently ignore the advancement of AI in military applications. While different nations may prioritize different sectors, most policies stress social concerns; military applications are usually given less emphasis.

The political ideologies of the nations that do emphasize military applications differ significantly from one another. With considerable distinctions in their approaches to warfare, the United States and China are now engaged in the main rivalry in artificial intelligence and associated technologies. While Chinese strategists concentrate on utilizing AI to render opposing troops immobile, the U.S . military stresses employing AI for deadly strikes against enemies (DTIC, 2023) . (Roberts et al. , 2020) . With an emphasis on information warfare and control, the People's Liberation Army (PLA) seeks to protect its system of systems and use AI to immobilize enemies (Dahm, 2020; Kania, 2021) . This emphasizes how important it is to specify the underlying philosophy of artificial intelligence (AI) in a particular setting, since this philosophy will determine the fields and architecture of AI research.

With future confrontations predicted to be undeclared and include terrorist, subversive, and multi-domain elements — as well as hybrid techniques like drone operations and cyber warfare in densely populated areas —conventional combat is becoming less and less likely. The ongoing confrontation between Russia and Ukraine (Ljungkvist, 2022) and Israel and Hamas (Adetunji, 2023) are two instances of this. The complexity of this kind of warfare will need the use of contemporary technology like artificial intelligence for both reaction and monitoring. According to this viewpoint, countries such as the United States have created experimental combat units that are outfitted with cutting-edge weapons and robots (Becker, 2023), but other countries have not made as much development (Kania, 2021) . The fact that Artificial Narrow Intelligence (ANI) has already assimilated into the majority of electronic devices in use is noteworthy. As a result, ANI is now seen as a part of current technology rather than a technology of the future. Contrary to popular belief, artificial intelligence (ANI) has been incorporated into a wide range of military applications across the globe, including fighter aircraft, unmanned aerial vehicles (UAVs), naval battle systems, marine crafts, battle tanks, missile systems, transportation, radar systems, communication systems, navigation and direction systems, reconnaissance systems, and more (Taddeo et al. , 2021) . Even while AI is frequently thought of as still in its infancy in many of these systems, its existence is well-established and unchanging, signaling the start of AI integration in military operations.

Artificial Intelligence in Sports:

Artificial intelligence (AI) refers to computers' capacity to perform cognitive

activities such as thinking, perception, learning, problem solving, and decision-making . This skill is based on human processes like as perception, learning, reasoning, and decision - making. AI is a fast expanding field of research that is gaining traction in sports and IT.

Coach's Eye, a video analysis tool built for various sports, is one example. It allows for a deep assessment of athletic actions such as bat swings and hops. Another application, Dartfish, is ideal for filming skill-based films and providing instant feedback. AI and Machine Learning are helping judges, referees, and umpires make better decisions. For example, in cricket, the third umpire uses AI - powered visual assistance to help the umpire make exact choices when minute variances are difficult to discern with the naked eye.

AI's influence in modern sports is expanding, resulting in significant alterations in the discipline. As technology progresses, with better sensors, processors, and algorithms, the presence of A I in sports is predicted to not only remain, but even grow in importance.

Sports businesses are increasingly reliant on AI to be competitive, whether through internal IT skills or external AI platforms.

Artificial intelligence (AI) is the capacity of computers to perform cognitive processes such as thinking, perceiving, learning, problem-solving, and decision-making, drawing on human talents in these areas. AI is a new and sophisticated branch of research that is becoming more important at the convergence of sports and tech.

The Tokyo 2020 Organizing Committee, in collaboration with partners such as Intel, has developed ground-breaking innovations aimed at revolutionizing the Games in a variety of sectors, including 5G connectivity, AI solutions, immersive media, and esports. A virtual reality (VR) training system creates a more realistic learning environment and gives exact, objective feedback, increasing training efficiency while decreasing expenses. AI in the Tokyo 2020 Olympic Games will be focused on delivering top-tier technology integrations to improve the experiences of athletes, coaches, and spectators. As technology advances, it becomes increasingly important in the progress of sports, improving performance in numerous aspects. As a result, technology improvements provide more effective training, athlete management and monitoring, accurate results, increased spectator involvement, performance enhancement, and injury avoidance, among other advantages.

In sports training, artificial intelligence is used to provide real - time feedback and create individualized training regimens for players and coaches, increasing the efficacy of each activity for individuals. AI has a huge impact on pre-game and in-game strategy, with computer analysis playing an important part in deciding lineup selections before and during tournaments.

AI may improve sports performance by monitoring a variety of parameters such as biomechanical aspects, serve placement, player position, and movement.

Coach's Eye is a flexible video analysis tool built for a variety of sports. It is especially beneficial in sports that need a close examination of athletic motions, such as assessing bat swings or leaps. The software also makes it easier to communicate with coaches online and access websites. The quality of the video pictures captured is determined by the mobile device's recording and playback

specs. This program is particularly useful for community-level trainers who may not have access to more complex and expensive performance analysis tools.

Dartfish offers video analysis tools that are ideal for collecting skill-focused videos and offering instant feedback. The present market provides feature-rich and effective teaching tools for coaches. Dartfish analyzes an entire digital video ecosystem designed specifically for sports companies, including an all-encompassing internet platform, professional software suites, training materials, and a variety of applications to fit both local and worldwide requirements.

The SMART Coach system is the pinnacle of technical innovation in high-performance coaching for all sports. By combining Hawk-Eye's acclaimed ball tracking technology with SMART Replay and high-speed biomechanical analysis, this program provides players and coaches with an unprecedented amount of data to improve their game. The data acquired can provide real-time and post-event insights into every facet of an individual's, team's, or opponent's performance, which is useful for team coaches and video analysts. Each video taken by SMART is time-stamped, allowing for synchronization with data inputs for more effective and informative analyses.

AI and machine learning are helping judges, referees, and umpires make more educated choices. In cricket, the third umpire uses AI-powered visualization to help officials make decisions that the human eye may struggle to discern, particularly in situations involving split-second or millimeter-level disparities. The advent of new technology is revolutionizing professional sports throughout the world, resulting in evolutionary improvements that benefit players, coaches, and officials while preserving the games' core essence.

When we talk about artificial intelligence in sports, we're venturing into a new ground. By integrating sensors and cameras to AI systems, we can enable totally automated officiating. For example, in soccer, on-field tracking devices may detect handballs, assess penalties, and judge offside situations. These systems are now operational, and the capabilities of autonomous AI systems are projected to grow further. Advocates for automated officiating say that AI can reduce corruption and more correctly enforce regulations, implying that this technology will play an increasingly important role in sports.

AI is a complete assistance tool for match officials, supporting them in following the rules correctly. It serves as a "all-seeing eye" when officials are not present (like with VAR in football and Video Check in volleyball), supplying critical aspects for analyzing and making fair and unbiased decisions.

Sports broadcasters and streaming companies are constantly looking for new ways to engage fans and deliver immersive experiences that bring them closer to live action. Live sports producers are increasingly turning to cutting-edge technology, notably Artificial Intelligence (AI) and Machine Learning (ML), to improve speed and efficiency while also generating new revenue sources.

Currently, powerful AI-powered solutions can detect and retrieve metadata associated with certain game objects, players, events, and actions. This functionality allows for near real-time content discovery, directing viewers

to the most relevant information . Furthermore, these technologies may create highlight packages depending on current game events and viewer preferences. AI and machine learning are critical to attaining exceptional efficiency in sports production, which enhances audience and advertising income. Let's look further at how AI is changing the landscape of live sports production.

Artificial intelligence is playing an increasingly important part in modern sports and gaming, causing huge changes throughout the sector. The use of AI in sports is not a passing fad; it is poised to become even more important as technical breakthroughs increase sensors, processors, and algorithms. To remain competitive at the top levels, sports organizations are increasingly relying on AI, whether through internal IT departments or external AI platforms.

The Hawk-Eye system, which collects vast data during cricket and tennis competitions, is one example of excellent technology in this field. Recent advances in sports technology have resulted in a plethora of technologies meant to improve and maximize athletic performance.

Theoretical Framework:

In studying the influence of Artificial Intelligence (AI) training tools on performance outcomes in military sports among military athletes, the Cognitive Load Theory (CLT) provides a contemporary theoretical framework. Developed to explain how information is processed in human memory, CLT is particularly relevant for understanding how AI-supported training programs, designed to optimize learning and decision-making, impact performance in high - pressure environments like military sports. The theory posits that cognitive resources are limited, and effective training tools should minimize extraneous cognitive load while enhancing intrinsic and germane load, leading to better learning and performance outcomes.

The application of AI training tools can be understood within CLT by focusing on how they manage cognitive resources during military sports training. These tools can reduce unnecessary cognitive load by providing personalized feedback and real -time adjustments, allowing athletes to focus more effectively on critical task-related skills. According to Henderson and Zafar (2023), AI training programs can reduce the extraneous cognitive load of athletes by automating complex analysis and providing targeted, simplified feedback that allows them to focus on skill improvement rather than data interpretation.

Moreover, AI training tools enhance intrinsic cognitive load by aligning training tasks with the specific demands of military sports, which are often characterized by high-stakes, physically demanding scenarios. Studies by Kang and Muller (2021) emphasize the importance of AI in breaking down complex physical and strategic tasks into manageable components, improving athletes' ability to process and internalize critical sports-specific skills. In this context, AI tools serve as an intermediary between the demands of the task and the cognitive capabilities of the athlete.

In addition to managing extraneous and intrinsic loads, AI training tools also optimize germane cognitive load, which refers to the cognitive resources allocated to learning and schema development. By using advanced data analytics and simulations, AI tools can

create high-fidelity training scenarios that mimic real-world military sports environments, promoting the development of mental schemas necessary for quick decision-making under pressure. Research by Laroque and Brinton (2022) highlights how AI-driven simulations improve situational awareness and response times, which are critical in military sports competitions where rapid decision-making can determine success or failure.

CLT also underscores the importance of balancing cognitive load to avoid overload, which can impair learning and performance . AI tools can be designed to monitor athletes' cognitive workload and adjust the complexity of tasks accordingly, ensuring that they remain within optimal load levels for learning. This adaptability is supported by Smith and O'Malley's (2024) findings, which show that AI training systems can tailor difficulty levels based on real-time data, ensuring that athletes are neither overwhelmed nor under-challenged.

Furthermore, AI training tools foster better retention and transfer of skills to competitive scenarios by reinforcing learned skills in diverse, dynamic environments. Martinez and Opperman (2020) note that AI-based simulations in military sports training help athletes transfer skills from controlled training environments to real - world competitive settings by gradually increasing task complexity, closely mirroring in-field conditions.

Additionally, the feedback mechanisms of AI training tools support athletes in refining their technique, thus directly influencing performance outcomes. As Hoque and Perkins (2022) suggest, AI's ability to provide detailed biomechanical analysis enhances physical training by offering precision feedback that helps athletes make micro-adjustments to their form, which is especially important in the highly disciplined and technical nature of military sports.

Overall, Cognitive Load Theory offers a robust framework for understanding how AI training tools impact performance outcomes in military sports. By managing cognitive load and supporting the efficient acquisition and application of skills, these AI tools have the potential to enhance military athletes' performance under the unique demands of their sports.

Conceptual Framework

Figure 1 shows the research paradigm on the assessing the relationship between the military athlete respondents' assessment of the AI training tools they utilize and their self-assessment of their performance outcomes in military sports in Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China . It will likewise present the correlation between artificial intelligence training tools and performance outcomes in military sports among military athletes.

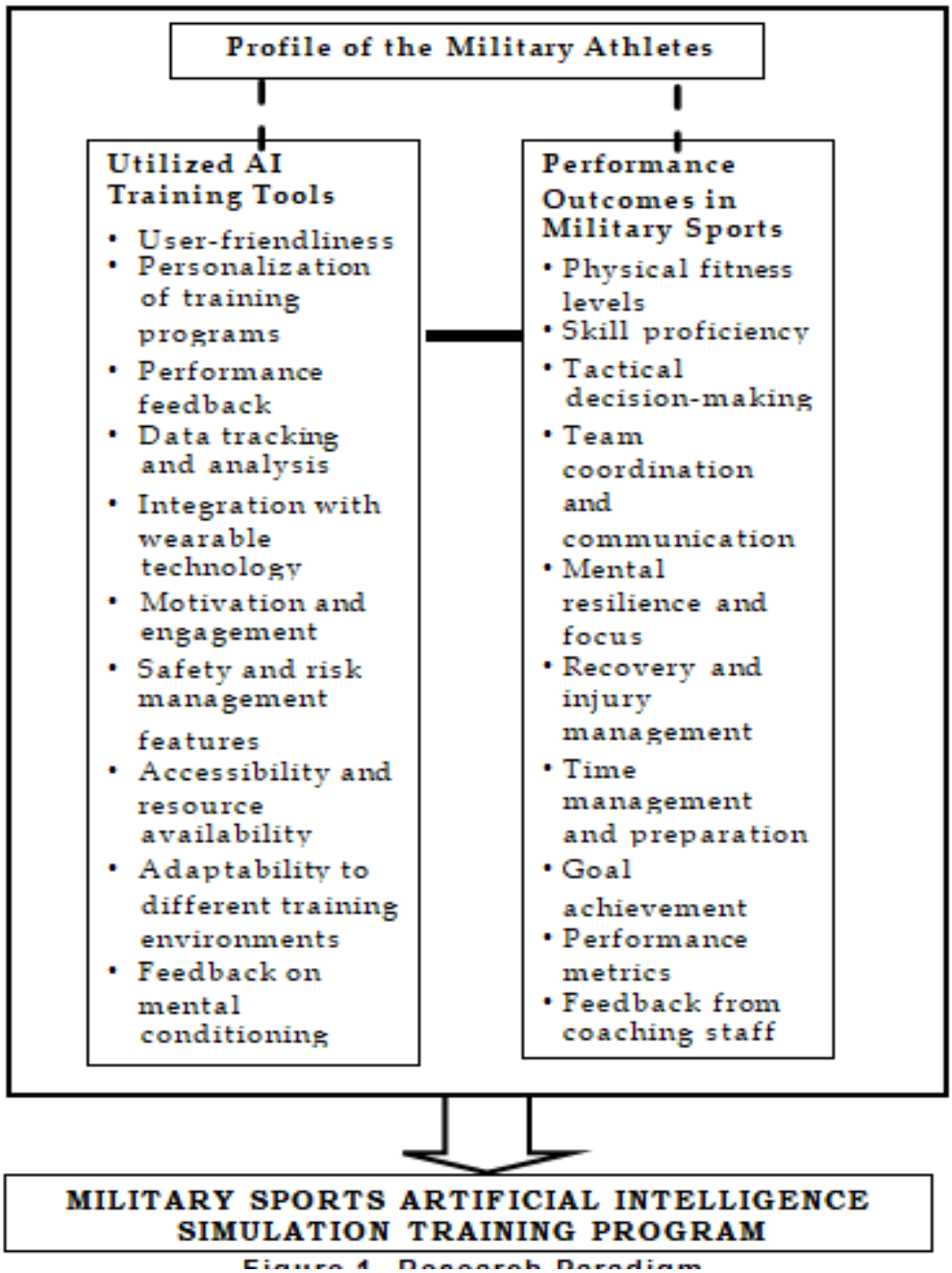

Figure 1. Research Paradigm

Figure 1 indicates the research paradigm of the study. It presents the intervening variables, specifically the military athletes' demographic data. It also presents the military athlete respondents' assessment of the AI training tools they utilize, and their self - assessment of their performance outcomes in military sports.

It shows the expected output of the study, which is the military sports artificial intelligence simulation training program.

Statement of the Problem

This study will determine the relationship between artificial intelligence training tools and performance outcomes in military sports among military athletes.

The results of the study will be used as a basis for a military sports artificial intelligence simulation training program.

Specifically, the study will answer the following questions:

1. What is the demographic profile of the military athletes

respondents in terms of:

1.1. sex;

1.2. age;

1.3. year level; and

1.4. number of years in the military?

2. What is the assessment of the military athlete respondents of

the AI training tools they utilize in terms of:

2.1. user-friendliness;

2.2. personalization of training programs;

2.3. performance feedback;

2.4. data tracking and analysis;

2.5. integration with wearable technology;

2.6. motivation and engagement;

2.7. safety and risk management features;

2.8. accessibility and resource availability;

2.9. adaptability to different training environments; and 2.10. feedback on mental conditioning?

3. Is there a significant difference in the assessment of the military athlete respondents of the AI training tools they utilize when they are grouped according to their profile?

4. What is the self-assessment of the military athlete respondents of their performance outcomes in military sports in terms of:

4.1. physical fitness levels;

4.2. skill proficiency;

4.3. tactical decision-making;

4.4. team coordination and communication;

4.5. mental resilience and focus;

4.6. recovery and injury management;

4.7. time management and preparation;

4.8. goal achievement;

4.9. performance metrics; and

4.10. feedback from coaching staff?

5. Is there a significant difference in the self-assessment of the military athlete respondents of their performance outcomes in military sports when they are grouped according to their profile?

6. Is there is significant relationship between artificial intelligence training tools and performance outcomes in military sports among military athletes?

7. Based on the results of the study, what military sports artificial

intelligence simulation training program can be proposed?

Hypothesis:

The following hypotheses will be tested:

1. There is no significant difference in the assessment of the military athlete respondents of the AI training tools they utilize when they are grouped according to their profile.

2. There is no significant difference in the self-assessment of the military athlete respondents of their performance outcomes in military sports when they are grouped according to their profile.

3. There is no significant relationship between artificial intelligence training tools and performance outcomes in military sports among military athletes.

Significance of the Study

The outcomes of this study can be valuable for the following:

Military Athletes. This study will provide military athletes with insights into how artificial intelligence (AI) training tools can enhance their performance outcomes in military sports, offering them advanced techniques for optimizing strength, agility, and endurance through personalized training programs.

Coaches. This study will offer coaches valuable information on how AI training tools can be integrated into their coaching strategies to track, assess, and improve the performance of military athletes, enabling more data-driven and individualized coaching approaches.

Athletic Program Heads. This study will supply Athletic Program Heads with data on the effectiveness of AI training tools in boosting performance outcomes among military athletes, supporting the integration of cutting-edge technologies into military sports programs to enhance overall athlete development.

School Administrators. This study will provide School Administrators with evidence on how AI training tools can contribute to better performance and injury prevention among military athletes, justifying investments in technology and training resources that can be applied in sports programs.

Policy Makers. This study will furnish Policy Makers with findings that highlight the potential of AI in transforming military sports training. The insights can guide the development of policies that promote the use of AI tools for improving athletic performance and safety in military training programs.

Professional Development Providers. This study will equip Professional Development Providers with the knowledge to create training and certification programs for coaches and trainers, focusing on the integration of AI tools into military sports training to enhance both performance and safety.

Future Researchers. This study will offer Future Researchers a solid foundation for exploring the impact of AI training tools on performance outcomes in military sports, encouraging further investigation into the evolving role of technology in athletic training and development.

Scope and Delimitation of the Study

The study will be carried out in Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China .

The scope of the study will cover the relationship between the assessment of the AI training tools they utilize and self-assessment of their performance outcomes in military sports by military athletes from Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China .

The study will evolve around the selected profile variables of the military athletes such as sex, age, year level, and number of years in the military.

To be specific, the military athlete respondents' assessment of the AI training tools they utilize will be based on the following: user- friendliness, personalization of training programs, performance feedback, data tracking and analysis, integration with wearable technology, motivation and engagement, safety and risk management features, accessibility and resource availability, adaptability to different training environments, and feedback on mental conditioning . This variable will be correlated with the self-assessment of the military athlete respondents of their performance outcomes in military sports

in terms of physical fitness levels, skill proficiency, tactical decision-making, team coordination and communication, mental resilience and focus, recovery and injury management, time management and preparation, goal achievement, performance metrics, and feedback from coaching staff.

In data gathering and utilizing more complex statistical treatment, the study included descriptive statistics and correlational analysis with one-way ANOVA and post hoc analysis to interpret further and investigate the military athlete respondents' demographic data and the significant relationship between their assessment of the military athlete respondents of the AI training tools they utilize and their self-assessment of their performance outcomes in military sports.

Definition of Terms

Agility Drills. Exercises designed to enhance an athlete's speed, coordination, and quick reflexes, important for rapid movements in military sports and combat situations.

Artificial Intelligence (AI) Training Tools. Advanced technological systems that utilize AI algorithms to enhance military sports training by providing personalized programs, real-time feedback, and performance tracking.

Biomechanical Analysis. The examination of an athlete's movements and techniques using AI tools to optimize performance and reduce the risk of injury.

Cognitive Training. Exercises and techniques aimed at enhancing mental functions such as memory, attention, and problem - solving, critical for decision-making in military scenarios.

Combat Readiness. The preparedness of military personnel for active combat situations, often enhanced through military sports and tactical training.

Data-Driven Training. The use of collected performance data and analytics to create customized training programs that target specific areas of improvement for each athlete.

Endurance Training. Physical conditioning aimed at improving an athlete's ability to sustain high levels of activity over long periods, a crucial aspect of military readiness.

Fatigue Management. Strategies employed to monitor and reduce physical or mental exhaustion during training, ensuring athletes maintain peak performance over time.

Heart Rate Variability (HRV) Monitoring. The measurement of variations in heartbeats, often used to assess an athlete's recovery status and readiness for intense training or competition.

Heat and Hydration Management. The process of monitoring and adjusting hydration levels and body temperature during training to prevent heat-related illnesses and optimize performance.

Load Management. The careful control of the volume and intensity of training to avoid overtraining and injury while maximizing performance gains.

Mental Conditioning. Psychological training methods designed to strengthen an athlete's mental toughness, focus, and resilience under stress or during competitions.

Mental Focus. The athlete's ability to concentrate on tasks or strategies during training and competition without being

distracted, leading to higher performance efficiency.

Mental Resilience. The capacity to recover quickly from stress, setbacks, or adversity, maintaining focus and performance during military training or competitions.

Military Sports. Competitive and physically demanding sports activities designed to enhance the combat readiness, physical fitness, and mental resilience of military personnel.

Performance Feedback. Information provided to athletes regarding their performance during training, often using AI tools and technology, to help adjust techniques and strategies for improvement.

Performance Metrics. The key indicators used to measure an athlete's progress, including speed, accuracy, endurance, and agility, often monitored using AI and technology.

Performance Outcomes. The measurable results of training programs in terms of improvement in physical, mental, and tactical abilities, as well as overall athletic performance in military sports.

Physical Fitness Levels. The overall condition of an athlete's body, including strength, endurance, flexibility, and cardiovascular health, which directly impacts their performance.

Real-Time Monitoring. The continuous assessment of an athlete's physiological and performance data during training sessions, allowing for immediate adjustments to improve outcomes.

Recovery and Injury Management. The process of rehabilitating and preventing injuries through rest, medical care, and specific recovery exercises, ensuring athletes maintain their performance levels.

Safety and Risk Management. The identification, assessment, and mitigation of potential hazards during military sports training to ensure the well-being of participants and minimize injury risks.

Sensory Feedback. The use of AI and wearable technology to provide athletes with real-time sensory data, such as tactile or auditory cues, to improve performance and decision-making.

Simulation Training Program. A virtual or augmented reality - based training system that replicates real-life military scenarios, providing athletes with a safe environment to practice and enhance their tactical skills.

Skill Proficiency. The level of expertise and competence in executing specific physical, tactical, or strategic skills required for military sports.

Strength Conditioning. A training method focused on increasing muscular strength and power, which is critical for success in military sports activities.

Tactical Decision-Making. The ability to assess situations and make quick, effective decisions during military sports activities or combat simulations, often under pressure.

Team Cohesion. The level of teamwork, communication, and unity among athletes, which impacts overall performance in team - based military sports.

Training Environments. The physical or simulated settings in which athletes undergo training, such as obstacle courses, shooting ranges, or AI-enhanced virtual environments.

Training Programs. Structured plans that outline the exercises, drills, and

routines aimed at improving specific skills and physical fitness among military athletes.

Virtual Reality (VR) Training. The use of immersive virtual reality environments to simulate real-life military sports and tactical scenarios, allowing athletes to practice in a controlled setting.

Wearable Technology. Devices worn by athletes, such as fitness trackers or smart clothing, that monitor physiological data like heart rate, speed, and movement to enhance performance and safety.

Methodology:

Research Design:

This research adopts a descriptive-comparative-correlational methodology characterized by clear definitions, thorough documentation, and a sophisticated grasp of contextual dynamics. As highlighted by Rajagopal and Sudhakar (2024), the primary goal of descriptive research is to systematically identify and analyze the essential characteristics, behaviors, and attributes of phenomena within their natural settings. The main objective is to create comprehensive profiles of specific entities or to achieve a deeper understanding of current situations, thereby laying the groundwork for future inquiries.

Expanding on the findings of Rajagopal and Sudhakar (2024), descriptive research is fundamental in social sciences and psychology as it enables a holistic understanding of underlying patterns and behaviors. This methodology allows for the collection of accurate and objective data about the attitudes, behaviors, and characteristics of target populations, providing significant insights into societal dynamics.

Furthermore, Khatri and Gunasekaran (2023) underscore the necessity of utilizing comparative techniques to identify crucial factors influencing events across various contexts or populations. They assert that correlational analysis is vital for enhancing the explanatory power of research designs by revealing potential causal relationships among variables. In this study, correlational analysis will be employed to explore the relationships between specific demographic characteristics and relevant attitudes or behaviors associated with the research topic, aiding in the formulation of theoretical frameworks and effective intervention strategies.

The descriptive-comparative-correlational approach utilized in this research offers a strong framework for unraveling the intricate interactions between variables and contexts. By incorporating detailed descriptions, comparative analysis, and correlational insights, this methodology draws on the perspectives of Khatri and Gunasekaran (2023) and Rajagopal and Sudhakar (2024) . This comprehensive approach bolsters the validity and depth of the findings, establishing a solid foundation for further research and practical applications in related fields.

This study aims to investigate the military athletes' assessment of the military athlete respondents of the AI training tools they utilize and its relationship to their self-assessment of their performance outcomes in military sports.

This research approach allows the researcher to numerically analyze, compare, and correlate the relationships amongst the dependent variables included in the study.

By utilizing this approach, the researcher will be able to find any significant difference or relationship in the military athlete respondents' assessment of the military athlete respondents of the AI training tools they utilize and their demographic data such as sex, age, year level, and number of years in the military. Also, the researcher will be able to find any significant difference or relationship in the military athletes' self-assessment of their performance outcomes in military sports and their demographic data such as sex, age, year level, and number of years in the military. The military athletes' assessment of the military athlete respondents of the AI training tools they utilize, and their self-assessment of their performance outcomes in military sports will then be correlated.

All the above discussions on the descriptive research method will suit the nature of research that this present study would do; hence this method will be adopted.

Research Locale:

This study will be conducted at the Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China.

Guangdong Postal and Telecommunications Vocational and Technical College was founded on November 22, 1949. Its predecessor was Guangdong Postal and Telecommunications

School, known as the "Huangpu Military Academy of Guangdong Postal and Telecommunications" . In 2002, it was approved by the Guangdong Provincial People's Government and upgraded to a regular higher vocational college.

It is a public full-time communication vocational college in Guangdong Province, selected as one of the first batch of vocational college president bases by the Ministry of Education, the first national postal industry talent training base, the first national higher vocational college service contribution top 50, the first national higher vocational college education effectiveness top 50, the first batch of modern apprenticeship pilot units, a member of the founding of the China Communication Service Vocational Education Alliance, the leading institution of Guangdong Communication Vocational Education Group (Guangdong Provincial Demonstration Vocational Education Group), the leading unit of the vocational college training alliance, and the Guangzhou Innovation and Entrepreneurship (Incubation) Demonstration Base.

According to the official website of the school in June 2024, the school has two campuses, Guangzhou and Jiangmen, with a total campus area of 460 acres, including a main campus area of 160 acres and a Jiangmen campus area of 300 acres; There are 4 secondary colleges and 20 vocational majors offered; There are over 660 faculty members and more than 9000 students enrolled.

Sampling Technique:

The respondents of the study will be the military athletes from Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China . In selecting the military athlete respondents, stratified random sampling technique will be used among the military athlete respondents.

Stratified random sampling is a method of sampling that involves the

division of a population into smaller groups known as strata. In stratified purposive sampling, or stratification, the strata are formed based on members' shared attributes or characteristics. For the computed needed respondents, of the () military athletes from Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China , using 5% of margin of error, () military athletes will be randomly selected as the respondents.

Research Instrument:

In gathering the needed data, the researcher will make researcher-made questionnaires on the military athletes' assessment of the military athlete respondents of the AI training tools they utilize, and their self-assessment of their performance outcomes in military sports.

The researcher will use face to face or onsite in administering this questionnaire.

The questionnaire will be composed of the following parts.

Part 1 – This section determines the demographic profile of the military athlete respondents.

Part 2 – This section determines the military athletes' assessment of the military athlete respondents of the AI training tools they utilize.

Part 3 – This section identifies the military athletes' self - assessment of their performance outcomes in military sports.

Utilization of the AI Training Tools

Scale	Verbal Interpretation
3.51 - 4.00	**Very Effective**

If the statements are very true of the training tools they use, 76%-100% level of effectivity.

2.51 -3.50 **Effective**

If the statements are true of the training tools they use, 51%-75% level of effectivity.

1.51 -2.50 **Slightly Effective**

If the statements are slightly true of the training tools they use, 26%-50% level of effectivity.

1.00-1.50 **Not Effective**

If the statements are not true of the training tools they use, 1%-25% level of effectivity.

Performance Outcomes in Military Sports **Scale** **Verbal Interpretation**

3.51 - 4.00 **Very Competent**

If the statements are very true of them, 76%-100% level of competency.

2.51 -3.50 **Competent**

If the statements are true of them, 51%-75% level of competency.

1.51 -2.50 **Slightly Competent**

If the statements are slightly true of them, 26%-50% level of competency.

1.00-1.50 **Not Competent**

If the statements are not true of them, 1%-25% level of competency.

The adapted questionnaire and the researcher-made questionnaire will be subjected to content validation of the experts who are knowledgeable in the

field of research. The suggestions of the experts will be made integral in the instrument.

The same instrument will be submitted for face validation with at least five experts. The questionnaires will be pilot tested to measure reliability. The pilot testing will be computed using Cronbach's Alpha through the Statistical Package of Social Science (SPSS) . The researcher welcomes the suggestions of the experts and will make necessary revisions to construct the said instruments valid.

Data Gathering Procedure

The researcher will get permission from the office of the principal of Guangdong Vocational and Technical College of Posts and Telecommunications in Guangdong Province, China .

When the permission is approved, the researcher will ask permission from the coaches by distributing a letter of consent form to the military athlete respondents, which will be signed by them and will be returned to the researcher.

After, the purpose of the study and instructions on how the items on the survey should be answered will be explained to the military athlete respondents. Then, the survey will be administered using the face to face and they will be given enough time to answer the survey.

After completing the survey, the researcher will collect the questionnaires from the military athlete respondents.

The data will be gathered, tallied, and processed with Statistical Package for Social Science (SPSS) . The processed data will be interpreted and analyzed, and the results will be used to propose a military sports artificial intelligence simulation training program.

Finally, the interpretation and analysis of data will be done. Summary of findings, conclusions, and recommendations will be formulated.

Statistical Treatment of the Data

The responses to the survey questionnaire will be tallied using the SPSS, and then they will be tabulated and organized accordingly. The data will be presented, analyzed, and interpreted using frequency, percentage, mean, standard deviation, independent samples t-test, one-way ANOVA, and Pearson's r correlation.

1. For research question no. 1, descriptive statistics such as frequency counts and percentages will be used to treat responses in the demographic profile of the military athlete respondents.
2. For research question nos. 2 and 4, weighted means will be utilized to treat the assessment of the military athlete respondents of the military athlete respondents of the AI training tools they utilize in terms of user-friendliness, personalization of training programs, performance feedback, data tracking and analysis, integration with wearable technology, motivation and engagement, safety and risk management features, accessibility and resource availability, adaptability to different training environments, and feedback on mental conditioning.

Weighted means will also be used to compute for the self-assessment of the military athlete respondents of their performance outcomes in military sports in terms of physical fitness levels, skill proficiency, tactical decision-making, team coordination and communication, mental resilience and focus, recovery and injury management, time management and preparation, goal

achievement, performance metrics, and feedback from coaching staff. The following will be used to interpret the WM of the athletes' responses:

Mean Range	Verbal Description
3.51 - 4.00	Very True of the AI Training Tools They Use/ Very True of Me
2.51 - 3.50	True of the AI Training Tools They Use / Very True of Me
1.51 - 2.50	Slightly True of the AI Training Tools They Use / Very True of Me
1.00 - 1.50	Not True of the AI Training Tools They Use / Very True of Me

3.For research question nos. 3 and 5, one way ANOVA with post-hoc analysis (Scheffe) will be used to find out the significant difference in the assessment of the military athlete respondents of the military athlete respondents of the AI training tools they utilize and their self-assessment of their performance outcomes in military sports.

4. For research question no. 6, Pearson's r correlation analysis will be utilized to determine the significant relationship between artificial intelligence training tools and performance outcomes in military sports among military athletes.

Ethical Considerations

The researcher will constructively consider and carefully follow the ethical considerations that must be met to protect the rights of all the respondents. The following are the ethical considerations:

1. Conflict of Interest

The researcher of this study ensured that there would be no conflict of interest . The researcher needed to elaborate and clearly state the purpose of this research and study to the chosen respondents. It is also a must that the researcher must stick to the purpose of gathering personal information and data. All gathered data must not be used for any form of exploitation against the respondents. The researcher must stick to the objective of the research and its purpose.

2. Privacy and Confidentiality

Before conducting this research, the respondents will be assured that whatever information would be gathered would be confidential, and the survey results cannot be given to anyone aside from the researcher himself and the person who answered the survey – questionnaire. The researcher must not mention the respondents' names in presenting the data gathered to protect their privacy. The identity of the respondents would remain anonymous or free from any clues and suggestions that

would lead others to connect or relate with the respondents.

3. Informed Consent Process

Before conducting the survey questionnaire, the researcher will secure a consent form that gives confirmation and consent from the respondents that they understand the purpose and objective of this study and agreed that the data gathered would strengthen the researcher's study. The researcher will make sure that she explains thoroughly and clearly everything to the respondents without any deception. The process and the possible risks in participating in this study will also be discussed.

4. Recruitment

The respondents of this study will be the physical education teachers. The respondents will be free to exercise their rights to disagree and agree in participating in this study. The respondents will not be forced to participate and will be given the freedom to refuse at any point in time.

5. Risk

The researcher of this study will ensure that there would be no risk in participating in this study. The respondents will ensure that whatever data and information would be gathered would not harm respondents' life and name. The respondents had all the rights to freely stop the conduct of questions at any given time if they felt harassed, questions were too personal and or violated.

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