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The impact of virtual reality and augmented reality on sport psychology

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Abstract
The essential aim of this research study is to measure the effect of virtual reality and augmented reality on sport psychology. This research study based on the quantitative research and data based on primary data analysis. For this purpose, generate different questions related to the variables the virtual reality and augmented reality both are consider as independent variable the sport psychology is main dependent variable. This research study employed smart PLS software to run distinct outcomes connected to the indicators and it was based on primary data analysis. The R square, composite reliability, discriminant validity, the indicator correlation, the total effect analysis and smart PLS Algorithm model present the overall research study. The virtual reality and augmented reality both are play a vital role in sport psychology. According to the result the overall research founded that there are positive and significant impact of virtual reality and augmented reality on the sport psychology.
Keywords: Virtual Reality (VR), Augmented Reality (AR), Sport Psychology (SP), Smart PLS Algorithm
Research Type: research Paper

Introduction

The society of today has gradually adopted modern technology. Any field of the world that is developed and advanced today is only because of science and technology. Education is the major field that has been influenced greatly by technology. Nowadays many countries across the world prefer to provide their youth the knowledge of all things with the help of technology. Technology is a great source of information also with the help of technology the learning process improves. Technology greatly helps the students of physical education through various technology apps Calabuig-Moreno et al. (2020). These apps help the students of physical education to better learn about their respective fields. In the last few decades, the interest of people in sports has increased tremendously. People all over the globe love to watch sports. Many people all over the world participate in sports every year but only those participations get selected who are enthusiastic about their goals.in sports of any kind enthusiasm and zeal is necessary. If an athlete is determined and hardworking only then he can achieve his goal, it is an old saying that determination is a key to success. With the help of technology, it becomes easy to train athletes in any sports and improve their skills.

Sports technology is mainly based on two concepts. The first is virtual reality. Virtual reality means training the athletes in physical education with the help of visuals. An athlete can better understand the tips and tricks of a game through visual learning (Bedir & Erhan, 2021). In the field of sports, imagery is the most common topic for research purposes. The field of imagery has attracted athletes and trainers due to its advantages as well as its time-saving phenomenon. Imagery means recreating a memory in mind for experiencing the behaviors of objects or humans. The technique of virtual reality works on the imagery process. In virtual reality, the training of sports is given to the athletes with the help of the imagery method. Many studies in the past have shown that when we learn a specific thing with the help of its image then we can better understand it. In the same way, if athletes of any sport will learn the sports technique with the help of a virtual method it will become easy for them to understand the game completely. Virtual reality is used in almost all fields whether it is related to medicine or computer games. The main purpose of providing virtual reality in sports education is to train three important things to the sports athlete. The first thing is to train the athletes to analyze their performance. The second is the stimulation development and the third thing is training the athletes using visual effects which are also termed virtual training. These three points are very essential for the proper training of a sports athlete through the virtual reality method.

The second concept used in sports psychology is augmented reality. The additional sports information provider to the sportspeople is termed augmented reality (Soltani & Morice, 2020). Augmented reality AR is a computer-based technology that provides the image of the real world with the help of technology-based techniques like graphics, video as well as audio. Augmented reality has many applications in the sports world. Its first application is that with the help of this technology the organizational space expands for the betterment of the surroundings and environment. The second application of augmented reality is that it is used to improve the relationship of the real world with technology. The third application of augmented reality is that it improves the capabilities of users so that they

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can modify and process various situations. Many sports broadcasting channels all over the world use augmented technology for educating viewers about sports (Okado et al., 2021). In recent years the technology of augmented reality has been integrated into the mobile apps for providing the users with the best experience of this technology. Augmented reality has many benefits that are the providence of useful information to the user, providence of useful feedback to players, and improving the products of customers' choice, etc.

The impacts of both reality-based technologies on sports athletes hold great significance. Both the technology-based programs benefit the athletes as well as the viewers. Virtual reality provides the training techniques to the athletes of various sports that benefit them in one or either way. On the three-hand, augmented technology is used for a captivating experience for the viewers of any sports using 3D technology. Spectators and viewers are the main targets of augmented reality. Both these reality-based technologies help the athletes of various sports.

Many universities worldwide have introduced the subjects of virtual and augmented reality for providing complete knowledge of all the sports-related techniques and technologies to the students of physical education. Only by acquiring the knowledge of virtual and augmented reality students can understand the basic methods and techniques of different sports.in today's world teaching students about the right topic is very essential for not only the betterment of students but also for the betterment of the whole world.to increase the interest of students in physical education in sports various sports academies should first teach their students about the two main sports-based reality technologies and then train them for any sport (Muhammad Talha, Sana Azeem, et al., 2020). All the mega sports and events of any sport should be based on virtual and augmented reality technology for improving the experience of both viewers and players. More and more sports competitions should take place worldwide for raising the confidence of sports athletes. Also, it is very important to provide all the sports-related necessities to the sports teams, players, and trainers. Providing moral and financial aid to the sports player will not only encourage the player but also help in raising the enthusiasm of sports athletes.

Research Objectives

The major objective of this study is to find the working of virtual reality and augmented reality in the sports industry. The benefits of virtual as well as augmented reality have been disused in the article. The impacts of virtual as well as augmented reality on sports psychology have also been discussed in this article.

This research study divided into five portions: first part determine the introduction of research study this section represent the objective of research and main research question for measuring the effect of virtual reality and augmented reality on sport psychology. The second part describe the literature review this portion present the previous research study related to the virtual reality and augmented reality of sport psychology. The third part determine the methodology, research participants, and method & techniques of research the fourth portion describe the result and descriptions related to the independent and dependent variables. the last portion summarized overall research study into one paragraph this section also determine the future recommendation about virtual reality and augmented reality.

Literature Review

Bird (2020) Generally defines the Augmented reality as the improvement of a virtual environment via a device employing layers of computer-generated graphics. It was studied that Augmented reality is the subset of Virtual reality. According to the belief of Berton et al. (2020), that virtual reality and augmented reality both have significant association among them, and it was appropriate to discuss these two concepts of VR and AR together. Whereas Ibáñez et al. (2020) studied in the study of same MR mixed reality, that virtuality reality and augmented reality should be understood as being on opposite ends of the Virtuality-Reality continuum, with one end comprising completely of real-world things and the second end consisting solely of computer-generated or synthetic objects (Muhammad Talha, Mishal Sohail, et al., 2020). Apart from this, Calabuig-Moreno et al. (2020) studied the influence of AR and VR on sport psychology and explain virtuality reality as "breaking down the final tier of boundaries, bringing the world into our homes while simultaneously reaching the universe from our house. It has significant influences in every field of life including sport, education, tourism, etc., almost every domain has its vast applications. In the case of its impacts on sport psychology, augmented it was noted that realities and virtual realities (AR and VR) have significant positive impacts on sport psychology. VR and AR utilized to reduce athletes stress, anxiety, and it was also useful to enhance athletes' sports performance.

Furthermore, AR and VR also have its influences in industries and have vast applications including architecture, entertainment, education, design, science, and health. Apart from this, Soltani and Morice (2020) highlighted that augmented reality adds more information to the experiences of athletes and may provide significant benefits over other emerging technologies. The major focus of this research was to describe and comprehend the advantages of AR and VR in sports psychology, training, and education. For this purpose, in the same research article, Khan et al. (2019) examined the databases Scopus, PubMed, Sport Discus, and Web of Science, and analyzed the results with respect to their importance in sport (customer, spectator, and practitioner). It was investigated that different approaches of Augmented reality might be

utilized for sport training and making suitable recommendations. It was suggested that there was need to introduce new rules for decreasing the gap among athletes having different level of experiences. Kim and Ko (2019) claimed that with the emerging technology AR and VR have gain popularity in every field of study, especially in sport psychology it has remarkable applications. Sports training generally based on two different concepts of technology. The first one is VR in which athletes have been trained PE with the help of visuals and highlighted that the players of various sports can be able to better understand the tricks and tips related to specific sport through visual learning.

Di Corrado et al. (2020) discussed the second concept of sport technology which have vast impacts in sport psychology and named as AR augmented reality. Many worldwide broadcasting channels of sports use AR technology for giving knowledge to their viewers about sports. Augmented realities have positive impacts on sport psychology. It can be utilized to improve the performance of athletes during play. Viewers and Spectators considered as the main targets of AR. So, both reality-based technologies AR and VR might assist the athletes of different sports. Moreover, Jeunet et al. (2020) claimed that by utilizing Augmented reality and virtual reality, both naturalistic sports scenario and skill training can be simultaneously executable.

Advancement in Science and technology in the form of AR and VR may also shift the emphasis away from natural abilities of human and focus on abilities and skills for collaborating with technology. It has also ability to enhance competitiveness of players and can also improve PA and entertainment. Apart from this, Bedir and Erhan (2021) highlighted that the emergence of virtual reality, mixed reality, and augmented reality have significantly changed the development of sport psychology. The technologies of sports have become increasingly essential for optimizing, recording, and analyzing players' performances during play. In this research paper, Abad-Segura et al. (2020) describes the impacts an advancement of virtual realities and augmented realities in sport psychology and identified their useful applications and characteristics. Furthermore, the strategies that enhance athletes' physical environments, including VR, AR, and MR has also been discussed in the paper. Sawan et al. (2020) explore that VR has been successfully implemented in a variety of fields of psychological health and education (Talha et al., 2021). However, there was little investigation into its usefulness in training of sports psychology.

In addition, it was investigated that VR system of displaying 3D realistic sports environment might trigger emotional activation and anxiety, enabling athletes to deal with psychological pressure in real-world scenarios. Apart from this, Garzón et al. (2019) said that VR is an interesting opportunity for sport psychology training, providing opportunity of high stress training of sport. Ng et al. (2019) claimed that nowadays VR technology has been utilized increasingly by the sports coaches, athletes, and many other sport professionals. Augmented reality as well as virtual reality VR have ability to improve the physical education training. In sport, exercise training using VR and AR is a unique way to health promotion. Virtual reality training programs have been demonstrated to be particularly beneficial for increasing the frequency and strength of physical activity. Corell-Almuzara et al. (2021) studied the impacts of AR and VR on sport psychology and claimed that VR has been enhancing sport psychology from recent many years with the advancement in VR technology. Whereas augmented realities can also be utilized in order to enhance sport psychology by examining gestures and movements of body through cameras in real time environment. Yung and Khoo-Lattimore (2019) said that VR is the 3D environment generated by the computer through which a user can interact and navigate and can stimulate with users' one or 5 senses in real-time.

Methodology

This research study describe that the impact of virtual reality and augmented reality on sport psychology. This research study depends upon primary research data analysis for measuring the research study used open ended and closed ended software and run different results related to the independent and dependent variables.

Research Methods, Tools, and Techniques

This research study describe that virtual reality and augmented reality this research study is based on primary data for determine the research study used smart PLS software and run results. The indicators correlation, descriptive statistical analysis, the F square values, R square values, co-linearity statistical analysis, the model fitness analysis, the smart PLS Algorithm model and also describe that residual analysis in between dependent and independent variables.

Variables

Table-1

Sr. No	Descriptions	Notations
1	Independent variables	IV
2	Virtual Reality	VR
3	Augmented Reality	AR
4	Dependent Variables	DV
5	Sport Psychology	SP

Virtual Reality

Virtual Reality (VR) is a computer-generated system that immerses the user in their environment by displaying realistic-looking visuals and objects. A Virtual Reality headset or helmet is used to observe this reality. Virtual reality, sometimes known as VR, is a technology that generates a virtual world. People participate in these

settings by wearing VR goggles or utilizing other mobile devices. It is a computer-generated representation of a scenario or 3-dimensional picture in which people may interact in a believable or tangible manner. Virtual reality is a method of simulating vision to create a three-dimensional environment in which the user seems to be immersed while exploring or experiencing it. The 3D environment is then controlled in full 3D by the user who is encountering it. Virtual reality is also being used to research psychiatric care solutions. It's been used to treat things like alcoholism, claustrophobia, and depression, among other things. For many consumers, headsets can provide a safer and more cost-effective alternative because they can be used in their homes. By utilizing light to generate holographic graphics, the HoloLens uses augmented reality to create three-dimensional items in real space (as opposed to virtual reality, which focuses on a fully virtual experience). Virtual reality is one of the technologies with the most potential for growth. According to IDC Research (2018), investment in virtual reality and augmented reality will more than quadruple in the next four years, reaching 15.5 billion euros by 2022. The virtual reality is main independent variable for measuring the impact on sport psychology.

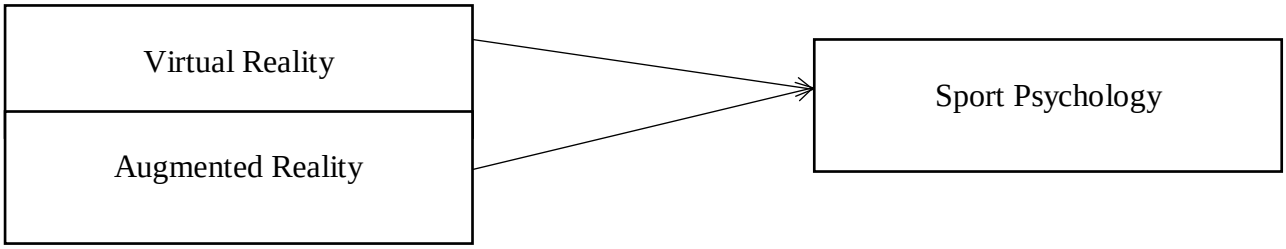
Augmented Reality

Augmented reality (AR) is a type of experience in which designers employ computer-generated input to supplement features of a user's actual surroundings. Designers create digital inputs that adjust in real time to changes in the user's environment, such as movement, and can range from music to video, graphics to Global positioning overlaying as well as more. The technique of superimposing visual, auditory, or other sensory information onto the real world in order to improve one's experience is known as augmented reality (AR). Retailers and other companies may use augmented reality to promote their products or services, launch new marketing campaigns, and collect specific consumer information. AR, or augmented reality, is a technology that displays virtual objects and information in our field of vision. If I point my smartphone towards a street, it may offer me with extra information such as the names of cafés, gyms, dentists, and other businesses. Virtual Catwalk, an AR-enabled tool that allows you to visually envision and experience up to 100 ASOS Design goods, was released earlier this year by the top fashion store. AR is also used in e-commerce by Zara, Ikea, Shopify, Kendra Scott, and many more companies. Many entertainment applications use the Augmented Reality Technology concept, but the most well-known are Snapchat, Google Lens, and Augment. Augmented reality has proven to be one of the most important innovations, providing new prospects for businesses all around the world. Analysts estimate that by 2025, the AR sector will be valued $198 billion. This year, the number of mobile AR users is expected to approach 3.5 billion. The augmented reality is second independent variable for determine the impact with sport psychology.

Sport Psychology

Sport psychology is a talent that focuses on maximizing athlete performance and well-being, as well as the developmental and social aspects of sports involvement, as well as systemic issues that arise in sports contexts and organizations. Professional and amateur athletes work with sport psychologists to overcome hurdles, improve performance, and achieve their goals. Work with players, coaches, and parents on injury, recuperation, collaboration, teamwork, and career transitions, as well as education and training in psychological skills for performance enhancement, are all examples of applied sport psychology. Sports psychology and psychiatry are also interrelated. With a background in sports psychology, you will be more suited to assist customers who have reached a snag or are feeling discouraged in their training. Working with your athletes through both mental and physical hurdles may help them succeed while also advancing your own career. Sports psychologists work with athletes to assist them enhance their performance. Most sports psychology jobs involve working with players on motivation, stress management, visualization, successful collaboration, and other psychological aspects of athletic performance. The sport psychology is main dependent variable in this research study it is determine the relation with each other.

Theoretical Framework



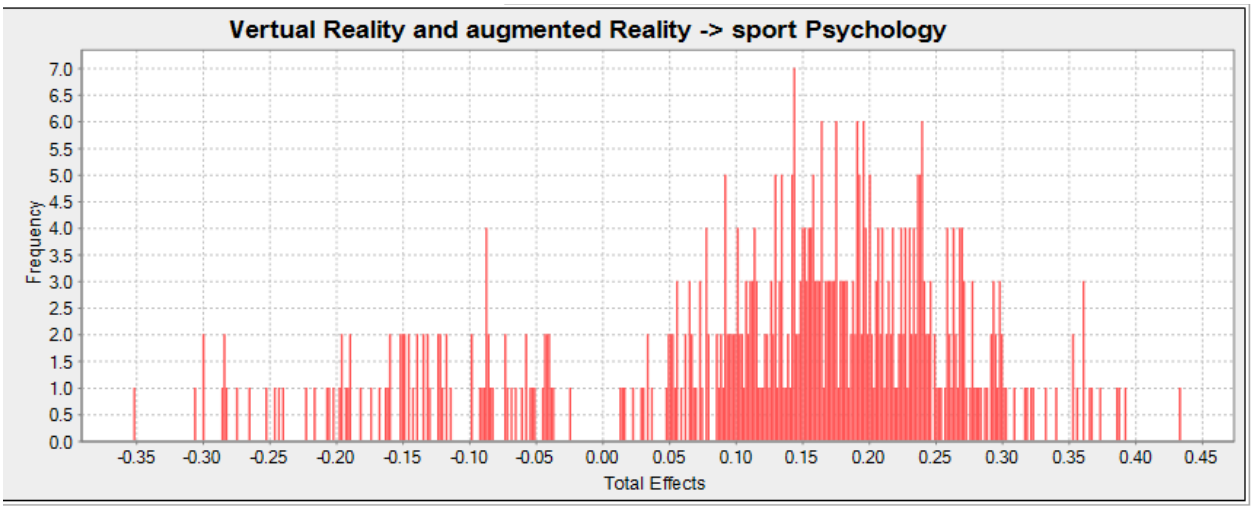
Econometric Model

This equation model describes the effect in between virtual reality and augmented reality on sport psychology this equation is as under

$$SP = \propto + VR\beta 1 + AR\beta 2 + \varepsilon \ldots\ldots\ldots\ldots \quad (1)$$

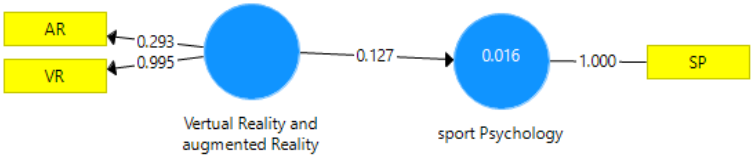
Where:
VR= Virtual Reality
AR= Augmented Reality
SP= Sport Psychology

Result and Descriptions



The above graph describes that total effect in between virtual reality and augmented reality with sport psychology. The vertical side represents the frequency levels which are start from 0.0 and end at 7.0 levels. The horizontal side presents the total effect which is start from -0.35 level and end at 0.45 levels the red line describe the relation and effect of virtual reality and augmented reality on sport psychology.

Smart PLS Algorithm



The above model describe the smart PLS Algorithm in between virtual reality and augmented on the sport psychology. The virtual reality present 0.293 rate which shows that positive relationship the overall independent variable shows that 0.127 means 12% significantly effect of virtual reality and augmented reality on sport psychology. The sport psychology presents that 0.016 values which is also shows positive relation with each other.

Weighted average analysis

Table-1

	Virtual Reality and augmented Reality	Sport psychology
Augmented Reality	0.293	0.000
Sport Psychology	0.000	1.000
Virtual Reality	0.995	0.000

The above result describe the weighted average analysis of each variables the result shows rates of virtual reality and augmented reality is 0.293 present 29% weighted average rate between augmented reality. The virtual reality shows that 0.995 rate shows that 99% weighted average analysis between them. The sport psychology shows that 1.000 rate of average analysis with each other.

Residual Analysis

Table-2

Case ID	Augmented Reality	Sport Psychology	Virtual Reality
1	-0.108	-0.000	0.011
2	0.453	-0.000	-0.045
3	1.347	-0.000	-0.135
4	1.014	-0.000	-0.101

5	1.909	-0.000	-0.191
6	2.575	-0.000	-0.257
7	0.786	-0.000	-0.079
8	0.786	-0.000	-0.079
9	-0.442	-0.000	0.044
10	-0.108	-0.000	0.011
11	-1.669	-0.000	0.167
12	-1.003	-0.000	0.100

The above result present that residual analysis result shows that case ID, start from 1 point and end at 12 points. The residual analysis of augmented reality are -0.108, 0.453, 1.347, 1.014, 1.909, 2.575 respectively these are all shows that positive residual analysis of each cases. The sport psychology is main dependent variable its present the overall residual values are 0.000. the virtual reality shows 0.011, -0.045, -0.135, -0.101, -0.191, -0.079, 0.044, 0.011 respectively shows that some negative and some positive values of each cases.

Composite Reliability Analysis

Table-3

	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted...
Virtual Reality and augmented Reality	0.334	1.947	0.643	0.538
Sport psychology	1.000	1.000	1.000	1.000

The above result describe that composite reliability analysis the result shows that cronbach's Alpha value, Rho-A value, the composite reliability values and average variance extracted values. The value of cronbach's Alpha is 0.334 of virtual reality and augmented reality its rho-A value is 1.947 result shows that 0.643 rate of composite reliability which means that 64% reliable for analysis. The average variance extracted value of virtual reality and augmented value is 0.538 which means that 53% variance rate. The sport psychology is dependent variable its shows that 1.000 value of each factors.

Co-linearity Statistic Analysis

Table-4

	VIF
Augmented Reality	1.042
Sport Psychology	1.000
Virtual Reality	1.042

The above result represents that co-linearity statistical analysis the result shows VIF values of each variable the co-linearity values are 1.042 of augmented reality 1.000 present sport psychology. The co-linearity statistic value of virtual reality is 1.042 shows that positive statistical analysis.

Model selection criteria

Table-5

	AIC (Akaike's I...	ALCu (Unbiase....	ALCc (Correcte...	BIC (Bayesian...	HQ (Hannan...	HQc (Correcte...
Sport psychology	1.393	3.413	102.645	6.583	3.492	3.749

The above result determine the model selection criteria the result shows that AIC, values, ALCu rate, BIC value, HQ and HQc values of dependent variable. the values of model selection criteria are 1.393, 3.413, 102.645, 6.583, 3.492 and 3.749 respectively shows that all of them are positive value of model selection.

Significant Analysis

Table-6

Matrix	Original Sample(O)	Sample Mean(M)	Standard Devia...	T Statistics (|O/...	P Values

AR<- Virtual Reality and augmented Reality	0.293	0.423	0.456	0.643	0.0521
SP<- Sport psychology	1.000	1.000	0.000	0.000	1.000
VR<- Virtual Reality and augmented Reality	0.995	0.693	0.427	2.329	0.020

The above result determine the significant analysis result shows that original sample value, the sample mean, standard deviation, T statistic and probability value of each matrix. The first matrix is augmented reality <- virtual reality its original sample value is 0.293 its sample mean value is 0.423 the standard deviation rate is 0.456 which shows 45% deviate from mean its T statistic value is 0.643 and probability value is 0.0521 which shows that 5% significant level (Talha, M., et al 2019). the sport psychology is dependent variable its original sample value is 1.000 and overall values are 0.000 respectively. the virtual reality is independent variable its original sample value is 0.995 its sample mean value is 0.693 which shows that 69% average value. The standard deviation value is 0.427 and T statistic value is 2.329 according to the result its probability value is 0.020 which means that 2% significant level in between virtual reality and augmented reality.

Indicator Correlation coefficient

Table-7

	No.	Miss...	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
Virtual reality	1	0	2.030	2.000	1.000	5.000	0.858	0.134	0.525
Augmented reality	2	0	2.505	2.000	1.000	5.000	1.086	-0.381	0.467
Sport psychology	3	0	2.848	3.000	1.000	5.000	1.140	-0.948	0.137

The above result represent indicator correlation result shows that mean values, median values, minimum and maximum values, also present that standard deviation values, excess kurtosis value and skewness value of each variable included independent and dependent. The virtual reality is independent variable its mean value is 2.030 its median value is 2.000 the standard deviation value of virtual reality is 0.858 its excess kurtosis rate is 0.134 and skewness rate is 0.525 respectively (M. Talha et al., 2020). the augmented reality is another independent variable its mean value is 2.505 which means that positive average value of mean its standard deviation value is 1.086 its excess kurtosis rate is -0.381 and skewness rate is 0.467 respectively shows that positively deviate from mean. The sport psychology is main dependent variable its average value is 2.848 its standard deviation value is 1.140 the rate of excess kurtosis value is -0.948 and skewness value is 0.137 respectively. the overall minimum value is 1.000 and maximum value is 5.000 the median value of sport psychology is 3.000.

Model fitness Analysis

Table-8

	Saturated Model	Estimated Model
SRMR	0.039	0.039
D_ULS	0.009	0.009
D_G	0.002	0.002
Chi-Square	1.028	1.028
NFI	0.818	0.818

The above result shows that model fitness analysis the result shows that saturated model and estimated model. Result shows that SRMR value, D-ULS value, D-G value, chi-square value and NFI value of each model included saturated model and estimated model. The values of saturated model are 0.039, 0.009, 0.002 and 0.818 its chi square value is 1.028 shows model fit for analysis. The estimated model shows that 0.039, 0.009, 0.002, and its chi square value is 1.028 shows positive values of each other. according to the result the overall model fit for research analysis its NFI value is 0.818 its 81% value of each model respectively.

R- square

Table-9

	R Square	R Square Adjusted
Sport psychology	0.716	0.7106

The above result determine the R square value of sport psychology its R square value is 0.716 which means that 71% research are reliable for analysis according to the result its adjusted R square value is 0.7106 respectively shows positive value of R square.

Discriminants Validity

Table-10

	Virtual Reality and augmented Reality	Sport psychology
Virtual Reality and augmented Reality	0.734	
Sport psychology	0.127	1.000

The above result present that discriminants validity of each variables the rate of virtual reality and augmented reality is 0.734 which shows that 73% validity rate between them. The sport psychology shows that 0.127 rate of validity with virtual reality and augmented reality 1.000 represent the 100% validity rate with dependent and independent variables.

Conclusion

In conclusion, sport is probably one of the industries where MR including AR and VR technology are used more efficiently, because professionals and sport teams, sponsors, enthusiasts, and followers are already familiar to using Augmented reality and Virtual reality technologies, such as in F1 models, footballs, cycling, and basketball (Hagan Jnr et al., 2018; Jeunet et al., 2020). In today's sport world, VR technologies and investments has been increasing. Mostly sport industries prefer Augmented reality and virtual reality in order to improve sport psychology (Zollmann et al., 2019). Federations and sports team have believed that VR, AR and MR technologies have ability to improve the experience for casual supporter and make supporters enables to feel as they are on the sitting of side-lines all over the world. In this research article, we studied that VR, AR and MR has vast application in every field especially in sport industries. It is noted that VR and AR have significant impact on the sport psychology. The quantitative finding of this study highlighted that the utilization of AR technology has positive influence on motivation, learning environment, and sport psychology.

We identified that VR and AR technology has changed human life, it provides more comfortable and easier life to community. It has ability to improve athletes training of particular sport by visual technology. These technologies are beneficial to reduce stress, anxiety, and can enhance performance of sport psychology. These consequences have been supported by the quantitative research and the athletes and many sport learners claimed that the learning environment based on Augmented reality is seems more easier and appealing to understand as compared to slide-base course (Hagan Jnr et al., 2018) This research study measures the effect in between virtual reality and augmented reality on sport psychology. This is based on the primary data analysis for measuring the dat used smart PLS software and run different results included indicators correltion, the R square, reliability, validity and smart PLS algorithm model. The overall research study concluded that there is positive and significant impact of virtual reality and augmented reality on sport psychology.

VR is largely utilized in the field of sport as it offers the opportunity to exclude or include the desired elements in the physical exercise and also provides creation of realistic models to evaluate the athlete's performance. Furthermore, with the emerging technology of VR and AR, the real competition domains are able to be created in virtual reality and augmented reality environment (Joo-Nagata et al., 2017).

Apart from this, it is investigated that the realistic virtual reality environmental athletes act psychological and physical reactions including anxiety, sweating, etc., as if they are already competing in real life and One of the study's key findings is that players who practice in a simulated environment enhance their shot skills. Furthermore, in this research study, we reviewed empirical and conceptual research on the application and impacts of VR and AR on sport psychology, sport training, and education (Yung & Khoo-Lattimore, 2019). We recommended many strategies for collecting, analyzing, and visualizing. We demonstrated how augmented reality systems may be used to acquire skills of sports, provide more knowledge, information, and feedback, create new sports, and introduce new rules. We investigated the influences of AR, VR, and MR on sport psychology in this paper. In addition, we exploit many other characteristics of VR and augmented reality technology in order to build new games and enhance the athletes' performance (Neumann et al., 2018).

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