



# IMPACT OF SPORTS-THEMED VIDEO GAMES PLAYING ON REAL-LIFE SPORTS INVOLVEMENT OF UNDERGRADUATES IN RAJARATA UNIVERSITY OF SRI LANKA

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## Abstract

With the growth of the field of video gaming is given the extreme popularity among the older teenagers and emerging grownups with providing crucial breaks to investigate positive outcomes of sport themed video game playing during this development period. As a quantitative study complemented by explanatory research design, this study intended to identify the impact of sport themed video game playing on real-life sports involvement by selecting 200 undergraduates from all the faculties in Rajarata University Sri Lanka by using stratified sampling techniques employing a self-designed questionnaire. As per findings, there is a significant impact sport themed video game playing on the real-life sports involvement and affective engagement, behavioral engagement and accessibility are significantly impacted on real-life sports involvement. Thus, it is recommended that sports-themed video game play may be an effective tool to promote real-life sports participation and physical activity among older adolescents and emerging adults. As well as the finding makes vital support to an emerging body of literature on the positive outcomes of video game playing.

**Key Words:** Sport-themed Video game, Video game Playing, Real-life sport involvement

## Introduction

Nowadays the Information and Communication Technology (ICT) is developing rapidly with sharing resources by using different kinds of communication devices in all over the world. As well as ICT is playing a vital role inside the sectors such as Education (1), Marketing (2), Agriculture (3), Accounting, etc.

ICT not only hands in hand with the organization sector but also sport (4) through familiarizing video game to the public According to (4) that video games are known as computer games, digital games, and electronic games and large range of interactive electronic entertainment technologies that help users to input command and output feedback through visual display. The hardware devices which are used to play video games range from large mainframe computer to small handheld computing device for instance personal computers, television monitors, custom-designed arcade cabinets, mobile phones, tablet devices and also some devices are used to control interfaces such as keyboards, handheld controllers and cameras. Furthermore, Video games are a well-establish and important industry that has a significant relationship with real-life sports (5). According to (6) it can be identified 12 types of Video games such as massively multiplayer online, Simulation, Adventure, Real-time strategy, Puzzle, Action, Stealth Shooter, Combat, First Person Shooters, Sports, Role Playing, and Educational.

Amongst these types of video games, sport themed video games are very popular among every nation. According to statistics in the United States, 11.6% Sports-themed video games distribution in 2016 (7). Moreover, Entertainment software association highlighted that most popular segment is sports-themed video games that are 15.3 percent of the total game sales (Entertainment software association, 2009). As Thunderous Greatfish playing sport themed video games are 49 percent, 32 percent, 14 percent, and 5 percent respectively in age 18-24, 25-31, 32-38, and above age 39 (8). The result of University of New Mexico highlighted that from 6 to 15 percent of gamers exhibits signs that could be characterized as addiction. According to statistics presented in the statistical portal, the number of video gamers worldwide in 2016 can be broken down by region. It is highlighted 912 million gamers in Asia Pacific in 2016, and 200 million people playing games in North America at the same time. The eSport is a form of competition using video games. And also eSports is a significant factor in the video game industry, with many game developers actively designing toward a professional esports subculture. According to (9) stated that there are 50% of most frequent gamers are familiar with eSports. Viewership of eSports has exploded from 204 million to 292 million between 2014 and 2016. That is a 43% increase in two years

Nowadays, the culture of sport themed video games playing start to arrive in the Sri Lankan gaming context. Sri Lanka Telecom is created first eSport platform in Sri Lanka. And also in 2018, it was organized “SLT eSports championship 2018” that is the fourth championship in fourth consecutive years (10). SLT has also announced that their intentions to activate a specific feature-based product that they tease “will enhance the performance of the gamers and give them a competitive edge when playing online” (11).

Even though, there is a sports-themed video gaming culture, the adults’ throwaway playing video games by their children. Because the past studies are highlighted that physical inactivity and obesity can be caused because of sports-themed video game playing (12). But recent studies illustrated that improves coordination, improve problem-solving skills, enhances memory, improves attention and concentration, improves the brains, enhances multitasking skills and, improves social skills (13). As well as Taylor and Brown indicated that positive effects such as experiencing the thrill of victory, developing sports-related knowledge, may enhance players’ sense of competence, the confidence necessary to approach novel challenges can be enhanced through video games playing (14).

As a result of that, the study aimed to answer the question “Does sports- themed video games playing an influence on real-life sports involvement.”

## **Literature Review**

### **Video Games**

Video games are supported to people to spending their leisure time enjoyable in the past 30 years. The first generation of video games was simple geometric shapes, one or more that could be controlled by the game player. With the release of the Nintendo Entertainment System was in the 1980s and Sony's PlayStation in the 1990s came new generations of games, with better graphics and more capabilities. And also people spend their money and time with a higher amount for playing modern video games (15).

According to (16) highlighted that video games can be played in different ways on different platforms, diversifying their impact. After Japan and the United State of America, the UK games market is the third largest in the world.

The history of video game has gone as early 1950. Designed simple game and simulated by academic computer scientists as part of their research. Its name is Spacewar. Since the 1980s, Video gaming has become a popular entertainment thing in most part of the world (17) “Pong” is the first commercial video game that was released in 1972. It was like a game of table tennis. Players had to hit a “ball” with “paddles” in this game (18).

There are a lot of benefits of playing video games. Those are Improves coordination, Improve problem-solving skills, Enhances memory, Improves attention and concentration, Improves attention and concentration, It is a great source of learning, Improves the brain’s, Enhances multitasking skills, Improves social skills (13).

### **Sport themed video game**

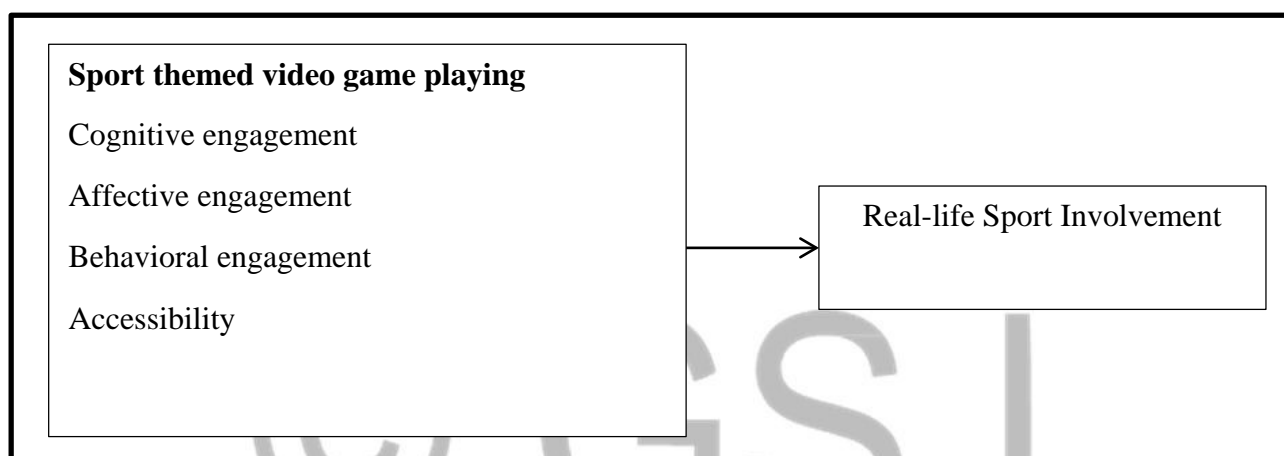
Video game industries are a well-established and imperative industry that has a significant relationship between real time sports (5). Sports video games are the most popular video game type among video game players. These are created by using real-world sports such as tennis, cricket, rugby, baseball, carom, boxing, karate, racing, football etc. FIFA video game is the most popular series. NBA 2K, NCAA Football 14, FIFA 19, FIFA 18, Pong, Wii Sports, EA Sports UFC 3 are the examples of sports-themed video games. Furthermore, (19), stated that sports video games most popular video game type among players. These are created based on real-world sports such as tennis, cricket,

rugby, baseball, carom, boxing, karate, racing, football etc. FIFA video game is the most popular series in the video game family. According to (20), there are lots of benefits such as Construction of mental models, learning of tactics and strategy, Acquisition of the language of the sport, Practice in a physiologically and psychologically safe environment, Differentiated instruction, Enhanced motivation, Collaboration and teamwork, Technological proficiency on playing sports-themed video games.

### Factors affecting sports- themed video game playing

It was emphasized that factors cognitive engagement, affective engagement, and behavioral engagement are affecting towards engaging the video games playing (21) and more accessibility to computer devices, platform, time affect towards more video game playing (22)

Accordingly, the conceptual framework has been developed as follows.



*Source: Developed by Researcher*

By examining the prevailing literature and conceptual framework the study proposed to examine the following hypotheses to identify the impact of sports- themed video game playing towards real-life sports involvement.

*H1: There is a significant impact of sports-themed video games playing on real-life sports involvement*

*H2: There is a significant impact of cognitive engagement on real-life sports involvement*

*H3: There is a significant impact of affective engagement on real-life sports involvement*

*H4: There is a significant impact of behavioral engagement on real-life sports involvement*

*H5: There is a significant impact of accessibility on real-life sports involvement*

### Methodology

In order to conduct the study for identifying the impact of sport themed video game playing towards real-life sports involvement, primary data collection method was applied to collecting data relating to "gamers; requirement, perspectives about the impact of sport themed video game playing towards real-life sports involvement". A Structured questionnaire with 45 questions and consisted of close-ended and five Likert scale questions were filled from 200 respondents from undergraduates who are playing sport themed video games in the Rajarata University of Sri Lanka. The Stratified method was used to select the sample from 6542 (23) population. Through the five Likert scale questions it was measured sport themed video game playing and real-life sports involvement. In behalf of that, examination of research articles, books, and websites regarding the impact of sports-themed video game playing towards real-life sports involvement used as a method of secondary data collection.

### Data Analysis and Discussion

The sample of the study was made up of 57 respondents from the faculty of management study, , 51 respondents from the faculty of Social Science and Humanities, 37 respondents from the faculty of Medicine, 24 respondents from the faculty of applied science , 16 respondents from the faculty of technology and remaining from the faculty of Agriculture. The contribution from the male portion is 58 percent and 42 percent from the female part. Furthermore, demographic profile highlighted that most of the respondents playing sport themed video games during 1 to 3 years (30%) and 1 year or less category is denoted least playing (8%) as the sport themed video gamer.

The reliability of the construct was confirmed that the items are the most suitable to test the impact of sport themed video game playing on real-life sport involvement through exceeding all Cranach's alpha values more than 0.7.

The correlational results of table 1 clearly show that sports-themed video game playing has a significant positively correlated with real-life sport involvements at the 0.01 level

	Sports- themed video game playing	Real life Sports Involvement
Sports- themed video game playing	1	
Real life Sports Involvement	.612**	1

*\*\*.* Correlation is significant at the 0.01 level (2-tailed).

The regression analysis highlighted that real-life sport involvement of sports-themed video game player is explained 37.1 percent variation of sports-themed video game playing. Moreover, result revealed that sports- themed video game playing has a positive and significant effect on real-life sports involvement that may tend to increase the real life sport involvement with higher sports-themed video game playing.

Furthermore, the correlational results of table 2 clearly shows that factors such as cognitive engagement, affective engagement, behavioral engagement, accessibility has a significant positively correlated with real-life sport involvements at the 0.01 level.

	Cognitive Engagement	Affective Engagement	Behavioral Engagement	Accessibility	Real-life Sports Involvement
Cognitive Engagement	1				
Affective Engagement	.539**	1			
Behavioral Engagement	.598**	.585**	1		
Accessibility	.571**	.567**	.720**	1	
Real-life Sports Involvement	.480**	.500**	.540**	.522**	1

*\*\*.* Correlation is significant at the 0.01 level (2-tailed).

Moreover, Paul J. C. Adachi and Teena Willoughby highlighted that when gamer playing sports-themed video game in 3 or 4 consecutive years he or she involve in real-life sports. Hence, it was highlighted that there is a bidirectional association between sports video game playing and real-life sport involvement, in that sports video game playing predicted greater involvement in sports over time and that adolescents who played sports more frequently were more likely to play sports video games than adolescents who played sports less frequently (24). According to (25) that games which are adaptations of existing sports or variations of them. In 2007 John Root stated that the main concept of the game of the present invention is to increase the fan's involvement in a live sporting event. The game of the present invention provides each player the opportunity of becoming interactive with each play of the real game (26).

In 2015 Paul J. C. Adachi and Teena Willoughby highlighted that sport video game playing predicted higher levels of self-esteem over time controlling for stability in self-esteem and in turn, self-esteem predicted higher levels of

involvement in real-time sport over the time, controlling for stability in real-life sport involvement (24). According to (27) stated that adolescents who play sports-themed video games are more likely to get involved in real-life sports over time and playing sports-themed video games appears to enhance kids' self-esteem by allowing them to develop and master sports-related knowledge and skills.

According to the multiple regressions result presented by table 4, all the predictors of the model (cognitive engagement, affective engagement, behavioral engagement, accessibility) explained 36.1% of variation of sports-themed video game playing. Moreover, F value, 29.162, with  $p < 0.01$  indicates that the model was fit to impact of sports-themed video playing on real-life sport involvement.

Moreover, the regression coefficient for dimensions of Real-life sport involvement, affective engagement, behavioral engagement and accessibility were significant at 0.05 levels. Thus, it can be concluded that all of these variables have a positive effect on real-life sport involvement

Adj. R square = 0.361

F value=29.162

Sig F=0.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.941	.234		4.020	.000
Cognitive Engagement	.164	.084	.148	1.961	.051
Affective Engagement	.172	.065	.199	2.665	.008
Behavioral Engagement	.154	.065	.211	2.383	.018
Accessibility	.166	.083	.173	2.005	.046
<i>a. Dependent Variable: Real-life Sports Involvement</i>					

## Conclusion

The study mainly intended to discover the impact of sport themed video game playing towards on the real-life sport involvement. According to the results, it can be concluded that sport themed video game playing significantly positive impact towards the real-life sport involvement. Besides cognitive engagement, affective engagement, behavioral engagement and accessibility have significantly correlated with the real-life sport involvement. Furthermore, regression analysis concluded that factors affective engagement, behavioral engagement and accessibility were significantly impacted towards a real-life sport involvement. Overall, these findings make an important aid to an evolving body of literature on the positive outcomes of video game play, as they suggest that, although video game play often is thought of as a catalyst for inactivity, sports video game play may be an operative tool to promote real-life sports participation and physical activity among older youths and emerging grownups.

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