



DISCUSSION ON THE ROLE OF VIDEO GAMES IN CHILDHOOD STUDYING

Masiha Ajmeri Mohammed

Department of English, Ad Darb University College, Jazan University, Jazan,
Saudi Arabia

magmeri@jazanu.edu.sa

Dr. Gulnaz Fatma

Language Instructor, Department of English, Jazan University, Jazan, Saudi
Arabia

gulnaz.fatima15@gmail.com

Dr. Akhila K P (MSW, PhD. Social Work)

Assistant Professor, Department of Social work, Sree Sankaracharya University
of Sanskrit, Regional Campus Payyannur, Edat P.O Kannur-670 327, Kerala,
India.

akhicuk@gmail.com

Sana Sarwar

Language Instructor, College of Science for Girls, Jazan University, Jazan,
Saudi Arabia

ssarwar@jazanu.edu.sa

Abstract

Introduction: For the development of the study relates to the Discussion on the Role of Video Games in Childhood Studying the study aims to analyse and discuss the role of video games in the education of children. Additionally, the background and rationality of the study are discussed with research questions and objectives.

Literature Review: Past literature was examined that helps to find contradicting opinions of the past researchers. This contributed to the development of an empirical study.

Methodology: To discover significant insights from the collected primary data, a quantitative analysis of the data was provided and examined.

Findings: It was found that restricted use of video games can be beneficial for children

Conclusion: A detailed analysis of the results is followed by a presentation of the study's main conclusions.

Keywords- *video games, childhood Studying, cognitive behaviour, children education*

Introduction

Video games have become one of the major industries with the improvement in its related factors. As per the opinion of García-Redondo et al. (2019), the development of different technology parts a pivotal role in the process of improving the video game industry. In addition, children are the primary consumer of video games.

Thus, the following study is developed on the process of analysing the role of video games in the improvement of childhood education. According to the suggestion of Barr & Copeland-Stewart (2022), there are positive impacts of limited consumption of video games. Thus, such research provided a relatable background to the empirical study.

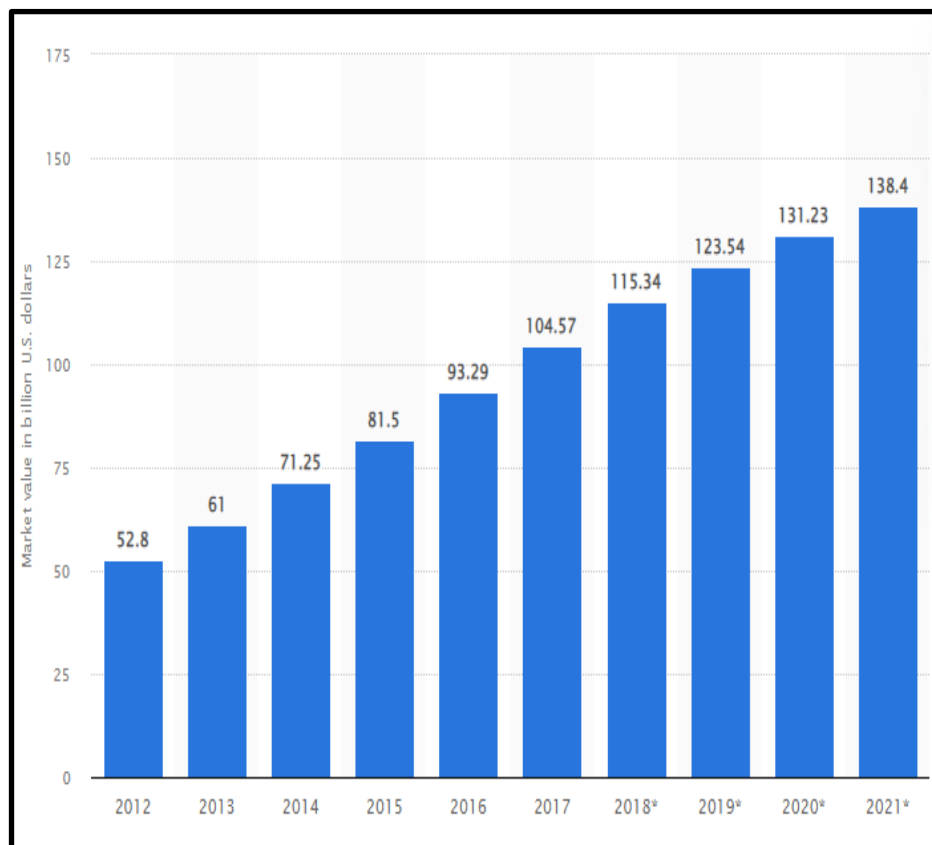


Figure 1: Global video game market from 2012 to 2023

(Source: Statista, 2023)

Figure 1 of the study highlights the gradual growth of the video game market. It can be seen that in 2012 the market capitalization of the videogame industry was 52.8 billion USD however 2021 videogame industry had a 138.4 billion USD market capitalisation (Statista, 2023). Therefore, it can be assumed that the consumer of video games has increased in numbers. Additionally, 93% of the consumers are under 2 to 17 years of age (Statista, 2023). Thus, such statistical data justify the rationality of the study.

Aim

The primary aim of the study is to analyse and discuss the role of video games in the education of children.

Research objective

RO 1: To analyse the role of video games in children's education.

RO 2: To discuss the impact of a restricted consumption of video games in childhood studying

RO 3: To elaborate on the impacts of cognitive behaviour of a child is through the restricted consumption of videogame.

RO 4: To suggest recommendations that help to improve the role of video games in improving children's education.

Research question

RQ 1: What is the role of video games in children's education?

RQ 2: What are the possible impacts of a restricted consumption of video games in childhood studying?

RQ 3: How to elaborate on the impacts of the cognitive behaviour of a child through the restricted consumption of videogame?

RQ 4: What are the possible recommendations that help to improve the role of video games in improving children's education?

Literature review

Videogames implicate the cognitive behaviour of children.

In order to develop an empirical study past literature was analysed and it was found that there is a relationship between video games with cognitive behaviour. As per the opinion of Tokac, Novak & Thompson (2019), the cognitive behaviour of children is impacted by regular high consumption of video games. In addition, there is a negative impact on if high consumption of video games. On the other hand, Halbrosk O'Donnell & Msetfi (2019) argued that consuming video games in a controlled manner can improve the cognitive ability of children. In addition, with an improved cognitive ability education of children can be improved. Thus from the above discussion it can be

concluded that cognitive ability is an essential aspect which helps in the development of education for a child. Moreover, improvement in cognitive behaviour helps to increase the potential of a child.

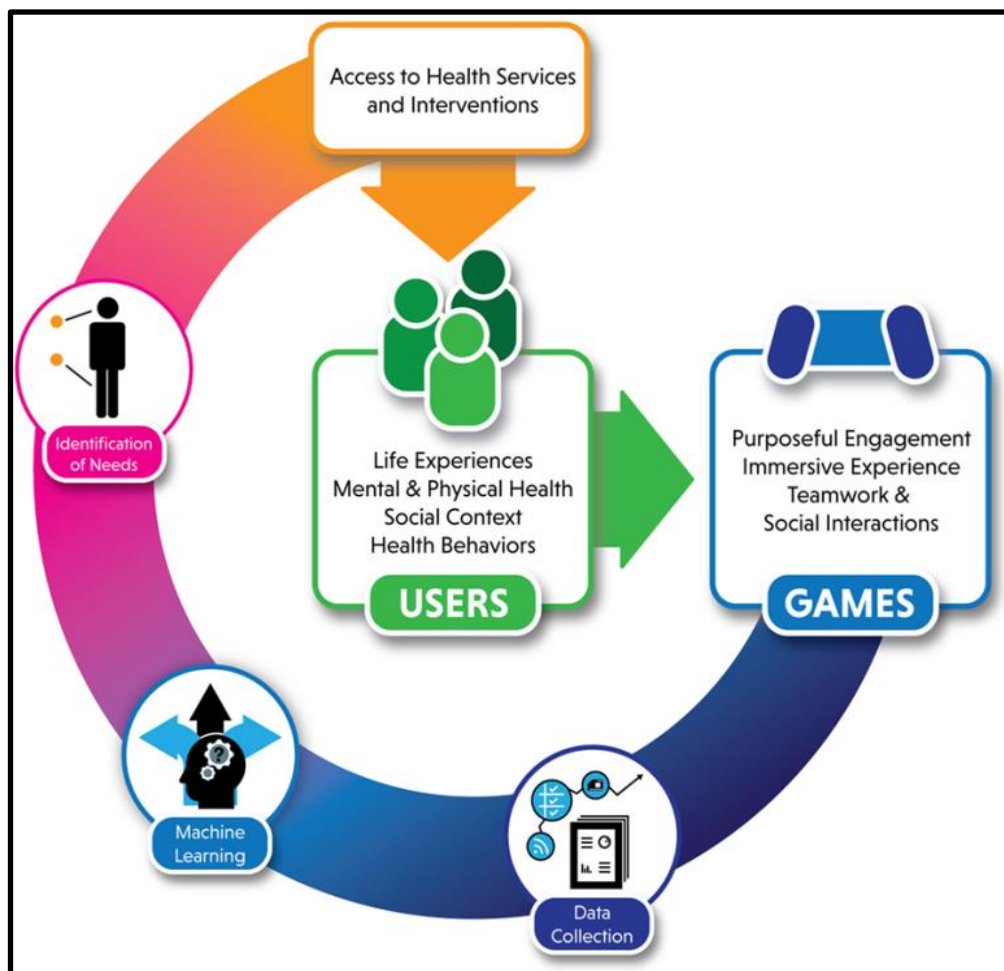


Figure 2: User cycle of video games

(Source: Tokac, Novak & Thompson, 2019)

Therefore it can be understood that video games are still a controversial topic. However, the limited uses of video games are becoming more mainstream Pappas&Drigas (2019). Thus, it can be said that the possessive impact of video games on the cognitive behaviour of children is a subjective matter of discussion.

Restricted consumption of video games has positive impacts on children

During the time of analysis, past data related to the consumption of video games are analysed. Furthermore, related factors regarding video games were analysed. As commented by Daleet al. (2020), the use of video games not only causes physical damage to children but also shows a detrimental impact on psychological health. Therefore, the use of video games negatively impacts children. On the other hand, Pappas & Drigas (2019) argued that there is some possessive impact of restricted use of video games. Moreover, daily limited use of video games increases the concentration and power of children. Similarly, Li, Wang & Liu (2020) opined that video games increase the creative thinking ability of students. Therefore, from the above discussion, it can be understood that there is a positive impact of the restricted use of video games.



Figure 3: Positive impact of video games

(Source: Li, Wang & Liu, 2020)

Thus, restricted use of video games improves the qualitative ability of children thus helping them in education and in real life. As commented by Li,

Wang & Liu (2020), there are certain benefits in communication and critical thinking ability with limited use of video games. Hence, limited use of video games is proven to benefit the cognitive behaviour of students.

Methodology

Data collection

The data collection method is an essential factor for a study which helps in the development of the study. Thus, in order to develop the study primary data collection method was used. As commented by Pandey & Pandey (2021), primary data collection provides a wider perspective to the collated data. Thus, the primary method of collecting data can provide a better perspective for the study. In addition, fractal information can be collated with the help of secondary data collectable methods (Blumberg et al. 2019). Thus, for observing the relationship between video games and children's education primary data was used in the study.

Data analysis

Quantitative methods of data analysis were employed to analyse the secondary data collected on the topic. The approach of quantitative analysis aids in the analysis of factual data relevant to the subjects (Mishra & Alok 2022). Moreover, information can be gleaned from the data through quantitative analysis. Thus, the study employed a quantitative way of analysis. Additionally, Liu, Yang & Chen (2020) commented that quantitative methods of analysis help to gather valuable insights for the collected data. Thus, the incorporation of fractal information was possible with the help of the quantitative method of analysis.

Findings

Demographics

Gender

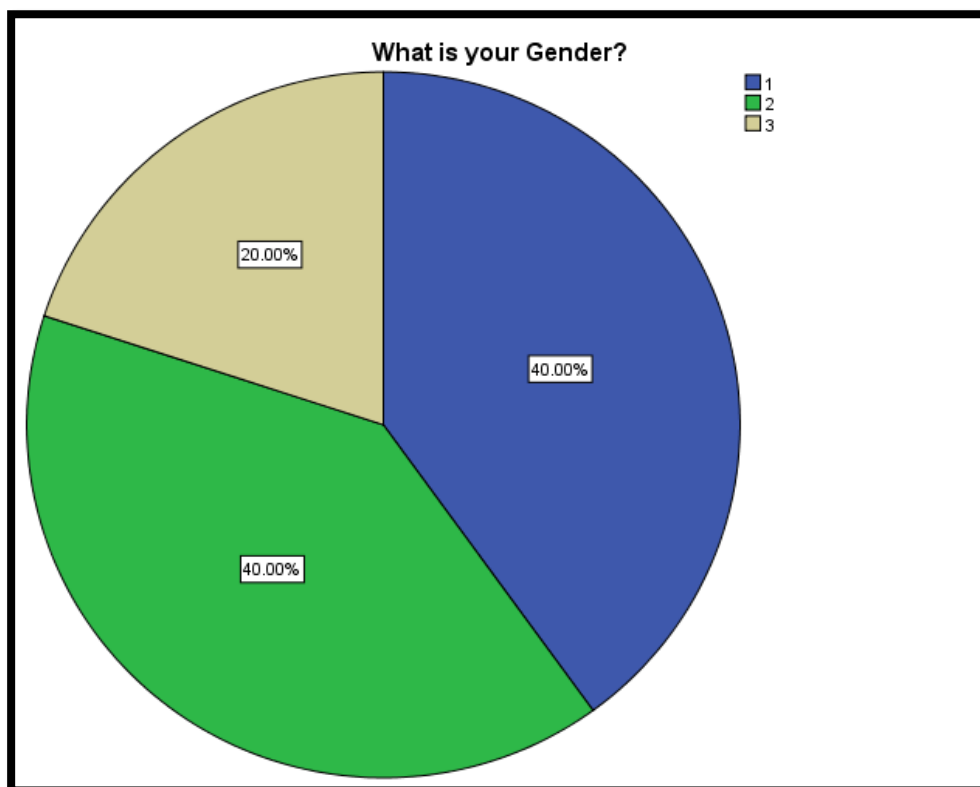


Figure 4: Pie chart associated with the gender of participants

What is your Gender?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| Valid 1 | 30 | 40.0 | 40.0 | 40.0 |
| Valid 2 | 30 | 40.0 | 40.0 | 80.0 |
| Valid 3 | 15 | 20.0 | 20.0 | 100.0 |
| Total | 75 | 100.0 | 100.0 | |

Table 1: Table associated with the gender of participants

Figure 4 and Table 1 of the study is related to the genders of the participant where 40% was Male and 40% were Female participants. On the other hand, 20% reduced to disclosing their genders in the survey.

Age

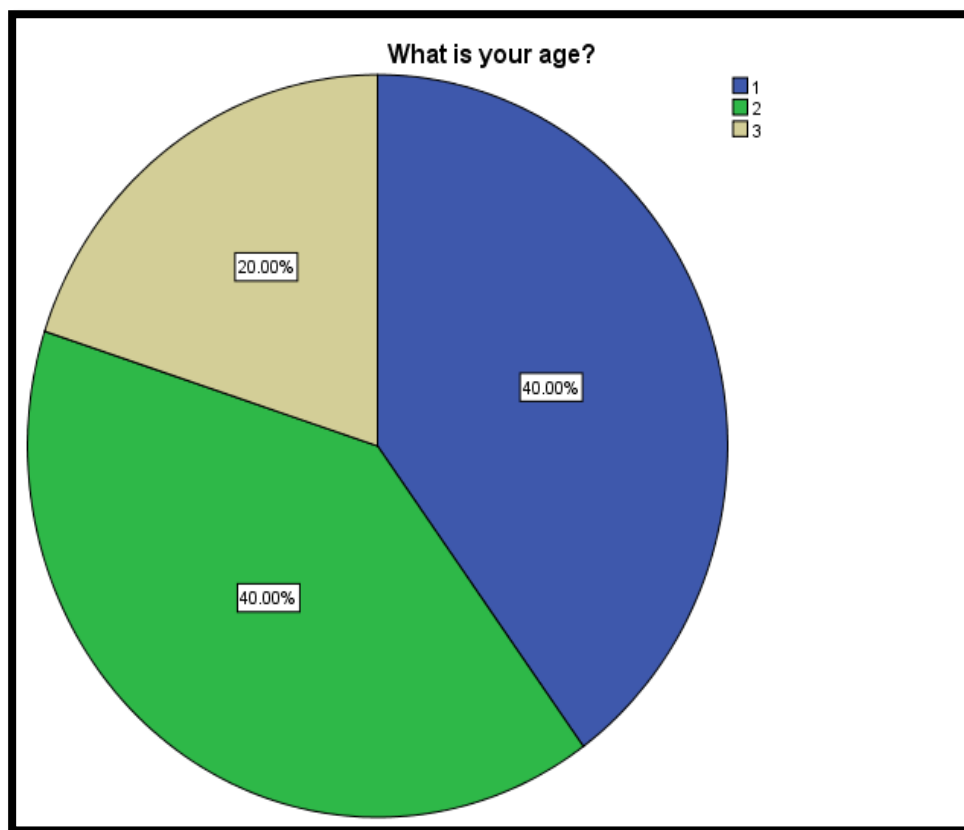


Figure 5: Pie chart related to Age

What is your age?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| Valid 1 | 30 | 40.0 | 40.0 | 40.0 |
| Valid 2 | 30 | 40.0 | 40.0 | 80.0 |
| Valid 3 | 15 | 20.0 | 20.0 | 100.0 |
| Total | 75 | 100.0 | 100.0 | |

Table 2: Table of Age

Figure 5 and Table 2 are related to the age of participants and the ratio of participants is shown. It can be seen those Below 20 years of age, there were 40% Between 20 to 35 years of age there were 40% participants. Additionally, 20% of participants were Between 35 to 60 years of age.

Income

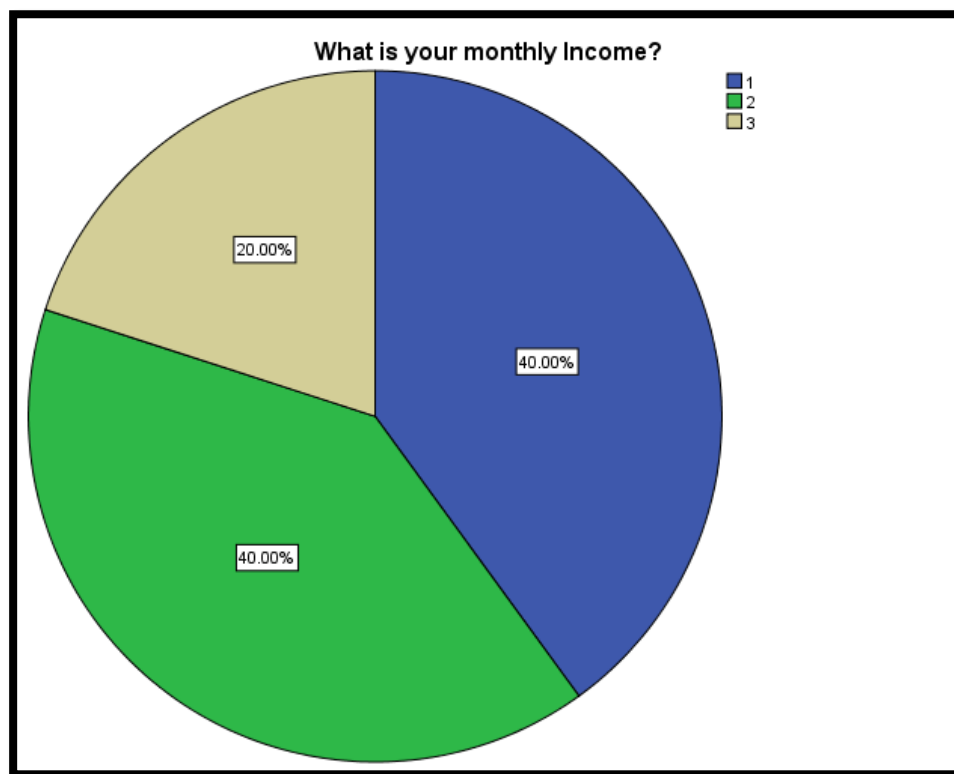


Figure 6: Pie chart related to income

What is your monthly Income?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| Valid 1 | 30 | 40.0 | 40.0 | 40.0 |
| Valid 2 | 30 | 40.0 | 40.0 | 80.0 |
| Valid 3 | 15 | 20.0 | 20.0 | 100.0 |
| Total | 75 | 100.0 | 100.0 | |

Table 3: Table of income

Figure 6 and Table 3 are associated with the income of participants and the percentages of different income groups are shown. It can be seen that Below RS 18000 there were 40% participants. Between RS 18000 to 30000 there were 40% participants and 20% participants were from Between RS 30000 to 50000.

Descriptive analysis

| Descriptive Statistics | | | | | | | | | | | |
|------------------------|----|-------|---------|---------|--------|----------------|----------|----------|------------|----------|------------|
| | N | Range | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Std. Error | Kurtosis | Std. Error |
| DV | 75 | 1 | 1 | 2 | 1.40 | .493 | .243 | .417 | .277 | -1.877 | .548 |
| IV1 | 75 | 2.00 | 2.00 | 4.00 | 2.8000 | .75337 | .568 | .351 | .277 | -1.149 | .548 |
| IV2 | 75 | 3.00 | 2.00 | 5.00 | 3.0000 | 1.27343 | 1.622 | .605 | .277 | -1.454 | .548 |
| IV3 | 75 | 2.00 | 2.00 | 4.00 | 2.8000 | .98639 | .973 | .417 | .277 | -1.877 | .548 |
| IV4 | 75 | 5.00 | 2.00 | 7.00 | 4.2000 | 2.33076 | 5.432 | .343 | .277 | -1.845 | .548 |
| Valid N (listwise) | 75 | | | | | | | | | | |

Table 4: Table of Descriptive Analysis

From the above table, it can be seen that the mean value of the descriptive statistics for the dependent and independent variables. It is clear that the mean values for all independent and dependent variables are higher than the standard deviation value. Thus, it is evident that the responses are centred on the mean.

Hypothesis 1: There is a relationship between the controlled use of video games and the education of children

Model Summary^a

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .218 ^a | .048 | .035 | .485 | .048 | 3.650 | 1 | 73 | .060 | 3.049 |

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | .857 | 1 | .857 | 3.650 | .060 ^b |
| | Residual | 17.143 | 73 | .235 | | |
| | Total | 18.000 | 74 | | | |

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.000 | .217 | | 4.614 | .000 |
| | IV1 | .143 | .075 | .218 | 1.910 | .060 |

Table 5: regression table for Hypothesis 1

Table 5 is related to the regression data of Hypothesis 1. From the above data, it can be seen that the significance value is 0.060 which is higher than 0.05. 0.05 is considered the benchmark value for regression analysis Halbrook,

O'Donnell & Msetfi (2019). Thus. It can be said that the value hypothesis 1 is not supported with appropriate pieces of evidence.

Hypothesis 2: behaviour of children and the restricted use of video games are related

Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .000 ^a | .000 | -.014 | .497 | .000 | .000 | 1 | 73 | 1.000 | 3.278 |

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|------|--------------------|
| 1 | Regression | .000 | 1 | .000 | .000 | 1.000 ^b |
| | Residual | 18.000 | 73 | .247 | | |
| | Total | 18.000 | 74 | | | |



Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|-------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.400 | .148 | | 9.486 | .000 |
| | IV2 | .000 | .045 | .000 | .000 | 1.000 |

Table 6: regression table for Hypothesis 2

Table 6 is related to the regretting values hypothesis 2 which has a significance value of. Therefore the significance value is lower than 0.05 indicating hypothesis 2 is supported by the research topic

Hypothesis 3: Cognitive behaviour of children is impacted by the use of videogames

Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .167 ^a | .028 | .014 | .490 | .028 | 2.086 | 1 | 73 | .153 | 3.133 |

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | .500 | 1 | .500 | 2.086 | .153 ^b |
| | Residual | 17.500 | 73 | .240 | | |
| | Total | 18.000 | 74 | | | |

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.167 | .171 | | 6.816 | .000 |
| | IV3 | .083 | .058 | .167 | 1.444 | .153 |

Table 7: regression table for Hypothesis 3

Table 7 has the regression value of hypothesis 3 which provided a lower significance value of 0.000 Therefore; a low significance value indicated hypothesis 3 is supported with appropriate evidence.

Hypothesis 4: Controlled use of video games is beneficial for the creative thinking of children

Model Summary^a

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .600 ^a | .359 | .351 | .397 | .359 | 40.965 | 1 | 73 | .000 | 3.356 |

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 6.470 | 1 | 6.470 | 40.965 | .000 ^b |
| | Residual | 11.530 | 73 | .158 | | |
| | Total | 18.000 | 74 | | | |

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.933 | .095 | | 20.333 | .000 |
| | IV4 | -.127 | .020 | -.600 | -6.400 | .000 |

Table 8: regression table for Hypothesis 4

The regression data of Hypothesis 4 are shown in Table 8. The significance value for the aforementioned data is 0.095, which is - then 0.05, thus a lower value than the standard value for regression analysis indicated a reliable hypothesis De et al. (2021). As a result, it may be concluded that the value hypothesis 1 is properly supported by the available data.

Discussion

In order to understand the role of video games in children's education the study was conducted. As per the opinion of Johannes, Vuorre & Przybylski (2021), there are certain detrimental impacts of playing video games for students which impact education. On the other hand, Quwaider, Alabed&Duwairi (2019) argued that there are of consuming video games in a restricted amount. Moreover, a possessive impact on the children's education can be observed. Therefore the study aimed toward analysing and discussing the role of video games in the education of children. According to, the opinion of Calvo-Morata et al. (2020), the cognitive behaviour of the study is further impacted by the use of video games in a restricted amount. Therefore, in order to develop a knowledgebase study factors related to the videogames are analysed. Moreover, the implications of a possessive video game are analysed in the study. In order to collect reliable data secondary method of data data analysis was included in the study.

On the other hand for analysing the secondary data qualitative method of analysis was incorporated into the study. According to the opinion of Przybylski & Weinstein (2019), qualitative methods of analysis provide a better perspective for the development of the study. Additionally, qualitative methods of analysis provide a better perspective of the collected data. Therefore the secondary qualitative method of analysis is beneficial for the development of the empirical study related to children's education and the impact of video games. Additionally, it was found that the controlled use of video games is beneficial for the education of a child. As per the opinion of Rosyati et al. (2020), in order to improve the behaviour of a student video

games can be helpful. Thus, based on the study it is recommended that the controlled use of video games required to be incorporated into children's life. Moreover, systematic use of video games can improve the focus and attention of children.

Conclusion

Hence, the above study is based on the role of video games in order to improve children's education. In the study, it was found that the restricted implication of video games has a beneficial impact on the education of children. Moreover, it was found that the cognitive behaviour of children is impacted by the use of video games. In order to develop the study primary method of data collection was implemented. In addition, A quantitative method of analysing data was used. Additionally, it was noted that for the development of focus and attention video games are one of the important and modern methods. Therefore restricted use of videogames in order to improve children's education is becoming main stream.

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Appendices

Appendix 1: Survey questionnaire

- i. What is your Gender?
- ii. What is your age?
- iii. What is your monthly Income?
- iv. Do video games have various positive impacts on childhood studying
- v. There is a possessive psychological impact of video games that impact childhood study.
- vi. Improved focus due to video games is an important cognitive behaviour
- vii. Reducing inaccurate thinking is a positive impact of video games that impacts childhood studying.
- viii. Cultural behavior is related to video games that positively impact childhood studying.
- ix. Higher brain activity is a factor which a possessive impact on video games.
- x. The attention span of children is impacted by limited consumption of videogames
- xi. The learning capacity of children is impacted by limited consumption of video games
- xii. Communication is a factor of childhood study that is impacted by video games.
- xiii. The confidence and morale of a child are boosted with limited consumption of video games.

Survey link:

<https://docs.google.com/forms/u/0/d/e/1FAIpQLSeqSMhB4ZzqAlnKjX4Dzs6MSbwqhaLyXkgJEGOSmNbjsnzVFA/formResponse>