

Impact of Video Games on Players' Decision-Making Power: A Study of Rawalpindi, Pakistan

Naila Aziz ^a Ghulam Safdar ^b Shameen Salis ^c

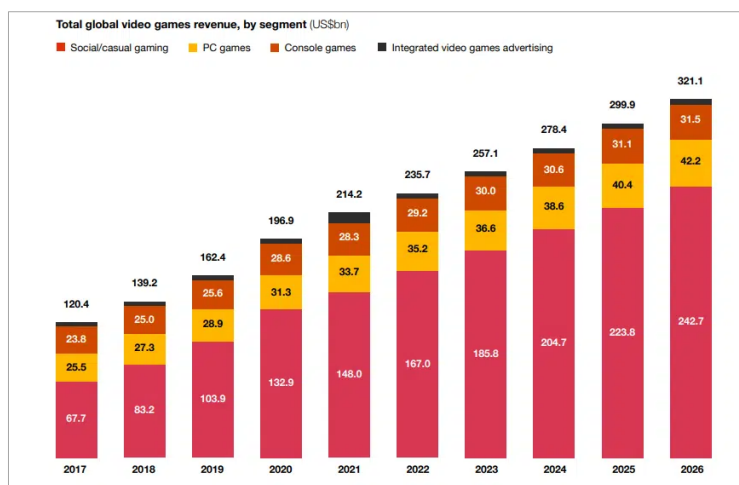
Abstract: In the modern era where video games emerge in the modern technologies, the problem is that many people think that video games have only negative impact on players but the fact is that video gaming has increased the cognitive abilities of the players. The aim of the study is to prove whether video games can really enhance the cognitive abilities or decision-making power of the players. This study is based on quantitative research (survey) designed to examine the impact of video games on player's decision-making power. For this study selected youngsters from the general public age (16–30). The result of this study proves that video gaming has increased the cognitive abilities of the payers in cognitive abilities including multitasking skills problem-solving abilities, critical thinking abilities, collaborative abilities, fast decision speed, etc. Video games are a big source for the betterment of our cognitive functions. In this era, we see many kinds of entertainment, but video gaming not only provides entertainment video games They enhance multitasking skills, brain functions, problem-solving abilities, critical thinking abilities, collaborative abilities, and goal orientation.

Keywords: Video Games, Decision Making Power, Learning

Introduction

In every aspect of life technologies have revolutionized the world in the realm of entertainment video games have made remarkable progress throughout the world. Today the video game sector is booming and unexpected growth. The expansion is expected to make the global gaming industry worth \$321 billion by 2026 (PwC's Global Entertainment and Media Outlook, 2022–26)

Figure 1



(source: <https://www.pwc.com/gx/en/industries/tmt/media/outlook/outlook-perspectives.html>)

^a M.Phil. Scholar, Department of Media and Communication Studies, Rawalpindi Women University, Rawalpindi, Punjab, Pakistan.

^b Assistant Professor, Department of Media and Communication Studies, Rawalpindi Women University, Rawalpindi, Punjab, Pakistan.

^c M.Phil. Scholar, Department of Media and Communication Studies, Rawalpindi Women University, Rawalpindi, Punjab, Pakistan.

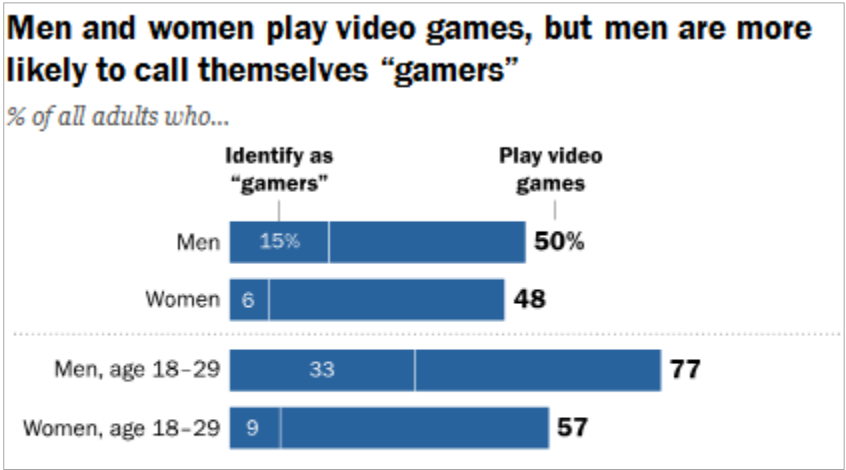
Video games are not only source of entertainment video games improve the power of concentration, creativity, and cognitive skills and shaped the future of technology and education. Video games have a positive impact on players video games enhance cognitive abilities such as concentration, multitasking skills, problem-solving abilities, social skills, creativity, etc. Functional MRI brain imaging analyses found that children who played video games for three or more hours per day showed higher brain activity in regions of the brain associated with attention and memory than those who never played. At the same time, those children who played at least three hours of videogames per day showed more brain activity in frontal brain regions that are associated with more cognitively demanding tasks and less brain activity in brain regions related to vision (National Institute of health, 24 Oct 2022)

Video games are not only part of entertainment they play a significant role in our real life. Video games can help reduce the stress of the players and enhance the multi-skills of the players. Video games have a cultural impact on players, they communicate with each other's it also helps to learn educational content numerous studies highlight the negative impact of the video games on the players (Naeem et al., 2024).

Video games are a significant part of a learning, entertainment and professional training there are a many reaches in the world, but they are all almost focused on negative impact on video games player no one explain the cognitive benefits of the video games. So, I think that I need to explore the decision making skills/power of the players such as enhanced problem solving skills, multitasking and enhanced brain activity etc.

The study explain the impact of video games on players decision making power, examined how video games enhanced the cognitive abilities of the players (problem-solving abilities, enhanced brain functions, concentrations abilities, multitasking, cultural impact, reaction times) etc., and examining the relevancy of these skills in real life decision making context.

Figure 2



(Source: <https://www.pewresearch.org/internet/2015/12/15/who-plays-video-games-and-identifies-as-a-gamer>)

Scope

Video games have dramatically transformed the industry in which involved virtual reality (VR), augmented reality (AR), block chain gaming, cross platform development etc. Virtual reality gives a player complete virtual environment then the player completely cutoff from the real world, and the augmented reality creates artificial environment with generated perceptual information on overload on top of it. Block chain is a new and beneficial technology in the world block chain gaming is a big source of income it enables to player earn in cryptocurrency. Peoples involved in the realm of video gaming rapidly after the 2019. The number of users in the 'Games' segment of the media market in Pakistan was forecast to continuously increase between 2024 and 2029 by in total 12.3 million users (+31.7 percent). (Statista Research Department, Nov 13, 2024) in Pakistan the men or more likely to playing games than women Gaming is a more popular pastime for men than women in Pakistan. In 2021, 76.9% of gamers were male and 23.1% were female (Intent digital, 2021).

Research Gap

In Existing studies research treat the video games as a just negative impact on games player. No researcher examined the decision-making skills/power of the video games players on individuals. So, the purpose of my study to motivate the people about the positive impact of video games that how video games enhanced the cognitive abilities like multitasking, problem solving abilities, improve concentrations abilities.

Research Objectives

The objectives of the research are

- To examine the impact of video games on players' decision-making skills and behavioral aspects.
- To investigate whether video games help players relax and reduce stress.
- To assess whether video games boost imagination and creativity.
- To determine if video games improve multitasking abilities.
- To evaluate the positive effects of video games on mental well-being.

Literature Reviews

Oscarido et al. (2023) conducted research to prove that video game has not only a negative impact on players rather video games increase the decision-making skills of the players and video games improve ability to make decisions quickly. They tested a video game among 22 teenage boys around 17-25. The sample of the study was the players who played games 2 hours per day for an entire week. The findings of the study were the players who played video games for a limited time, did not enough improvement in their decision-making. However, the players who played games for a long time spent more time playing video games were found more improvement in their decision-making power.

Atreya (2022) conducted research to prove that video games impact the development of cognitive skills of the players, and they also more quickly make decisions and focus on things rather than non-video players gamers (NVGP). Video games improve the ability of the empowerment and multi-tasking functions. He gathered the data through primary and secondary research. The sample size of this study was 8 participants those were 4 video game players (VGP) and 4 nonvideo game players (NVGP) who conducted different activities for collecting data. He used 2 2-car web applications to know the ability of multitasking function in which every participant had driven a 2-car at the same time. He gave every participant 5 chances and then he used the indefinite app to test the ability of memory. He asked some questions from a participant-specific limited time. The finding of this study video game players has faster reaction times as compared to non-video game players (NVGP). But in some tasks video game players were best in some abilities like multitasking activity etc. Although video games increased cognitive skills video games were not necessarily the ability multitasking function.

Martinez et al. (2023) conducted research. The aim of this study cognitive skills come from at the time of playing or from any type of game on players and how the implication of cognitive skills on board and video games. The sample of this study was 496 participants conducted online experiments of video games. Some participants played video games and some board games. The finding of this study is that they predict cognitive skills like fast reaction time and multitasking function in video game players but in board gamers, they did not find the ability of cognitive skills and playing is beneficial for cognitive functions.

Hisam et al. (2018) conducted research. The aim of the study that how video games affect cognitive abilities among teenagers They used a comparative cross-sectional study method in two schools in Rawalpindi 2014. a mixed questionnaire tool used for data collection. The sample size of this study was 15 to 21 years of both genders. They divided the participants into 2 groups 1 were video game players and 2nd nonvideo game players video gamers were those who played a game for two hours or more per day. They asked some questions through a questionnaire which had to be answered within 12 minutes. The findings of this study were that gamers were quicker in processing speed, and mathematical intelligence. And those students who played games on a long-term basis feel improvement in cognitive skills.

Bano et al. (2024) conducted research. The aim of the study is to determine the influence of online gaming on the behavior of the players and the relationship between online gamers and its possible impact on real-life behavior. They conducted an online survey of those people who spent most time gaming. The

sample size of this study is 200 gamers with an age range of 16–30 years. The findings of this study are that the virtual social interaction behavior the gamers influences real-world behavior. Gamers who were who played games on a regular basis.

Winaldo and Oktaviani (2022) conducted research. The aim of the study is to determine how video games influence the player's English proficiency. They collected the data through qualitative research. the sample size of this a student and asked some question with multiple answers. The finding of this study that video games can be help in learning English, but video games cannot be used as a main source of English proficiency.it is very helpful for players and a good relationship between a video game and English proficiency

Kumar et al. (2023) conducted research. The aim of the study is to what type of skills and reactions come in video game players Their reactions will be explicit or impact, positive or negative. They conducted qualitative research. The sample size of this study was 30 participants of the general public. They used semi-structured interviews the finding of this study is that video games a beneficial for learning and socialization students must play games one hour per day. Video games create faster creativity, and games improve the communication skills of players.

Oei et al. (2013) conducted research. The aim of this study is to determine how nonaction video games improve the cognition skills of players. They conducted an online experiment. The sample size of this study 5 groups of non-gamers. They were ungraduated. Every participant played a game 4 weeks one hour per day. Participants performed four behavioral tasks before and after playing the game task included attentional blink task, spatial task, visual search dual task, and cognitive task. The finding of this study is that video games eliminate visual attention and improve cognitive skills but, in some tasks, they predict the improvement of some other abilities like spatial memory and complex verbal span Video games enhance several cognitive and perceptual abilities.

Zioga et al. (2024) conducted research. The aim of this study that the cognitive and affective impact of video games on players They collected the data through a gaming skills questionnaire. The sample size of this study was 85 participants were 45 females and 43 males, and their age were 20–40. They asked questions about different games and tested their different memories (verbal short-term memory, verbal working memory, visuospatial short-term memory, visuospatial working memory, psychomotor speed, and attention Participants examined the abilities using the digital spam test and others. The findings of this study are that video games impact cognitive skills and have effective effects on players like puzzle games showed a positive impact on working memory.

Chandra et al. (2016) conducted research to analyze that impact of video games improvement in cognitive abilities and increasing performance of players They collected the data through experiments they made 2 groups 1 were control group and second were experimental group. Experimental group played a test match and then played after 2 months in which they played action games and control group played a test match and then played after 1 month. the findings of this study are that after the training of action games the experimental group showed enhancement in cognitive abilities. The psychology assessment showed an improvement in processing speed.

Barr et al., (2021) conducted research. the aim of the study is that the video games effect on those players who spend a lot of time at home. They were conducted online survey. The sample size of was 781 participants were all were aged 16 years or older. The finding of the study is that video games have a positive impact on 71% of participants but 58 % of players on negative impact Video games have a variety of benefits like reducing stress, anxiety, and mental health.

Khalid et al. (2019) conducted research the aim of this study was to determine how video games develop academic and information literacy in players. They used qualitative research design they conducted face-to-face interviews with elite economic class students. The sample of the study was teenagers (aged 13–19) year. The findings of the study where video game has a positive impact on teenage learning and it improves quick thinking, social skills, and information literacy.

Gabrito et al. (2023) conducted a research aim of this study was to investigate the impact of online gaming on the academic performance of students. The sample of this study was 75 students of online gamers who fill a survey questionnaire Every student played for 1-2 hours every day. The finding of this was that video games have a positive impact on gamers' test scores, and overall grades and they were also more interested in school activities and participating in learning activities. Videogames also negative impact on academic performance but it depends on the student how they manage.

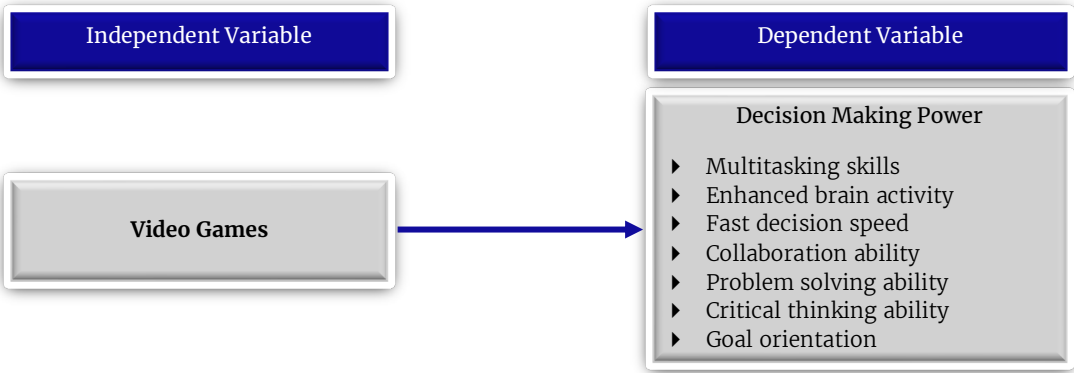
Li et al. (2023) conducted research the aim of the study was to the positive impact of video games on college student growth. The sample of the study was 20 ungraduated students from 6 universities They conducted qualitative research. The finding of this study was that online games have a positive impact on the personal growth, social life, and academic performance of players.

Toufik and Hanne (2021) conducted research aim of the study was to determine the positive effect of online games on learner players. The sample of the study ware 35 men and 15 women from university aged (17-22). they collected data through interviews, game experiences, and surveys. The finding of the study was that video games improve the communication skills and English of a learner's players

Valimaki et al. (2021) conducted research the aim of the study was to the impact of video games on the cognitive functioning of schizophrenia patients. The sample of the study was 234 schizophrenia patient aged (18-60). The finding of the study was that the beneficial impact of video games on schizophrenia patient mental health.

Patic et al. (2022) conducted research in which the aim of the study was that how video games effect on players on psychological and emotion level. The sample of the study was 947 peoples. they collected the data from thematically. the result of the study was that the video games has a positive impact on players mind they enhanced the deeper understanding effects.

Study Model



Study Objectives

- The main objective of this study is to explore the decision-making power /skills of video games players
- S.O.1: To explore the problem-solving ability in players.
 - S.O.2: To explore the multitasking skills in video games players.
 - S.O.3: To explore the critical thinking ability in video game players.
 - S.O.4: To explore the collaborative abilities in video games players.
 - S.O.5: To explore the fast decision speed in players
 - S.O.6: To explore the enhanced brain activity in video game players.
 - S.O.7: To explore the goal orientation among video game players.

Problem Statement

Video games are a significant part of a learning, entertainment and professional training there are a many reaches in the world but they are all almost focused on negative impact on video games player no one explain the cognitive benefits of the video games .so I think that I need to explore the decision making skills /power of the players such as enhanced problem solving skills, multitasking and enhanced brain activity etc.

Theoretical Framework

Research topic relevant with the self-determination theory of Deci and Rayan (1985) that present the concept of essential motivation and self-determination in human behavior. Self-determination theory suggests that all humans have three basic psychological needs—autonomy, competence, and relatedness—that underlie growth and development. Current research also deals with this theory.

- ▶ **Autonomy:** Video games enhanced player confidence level, and they have ability to take decision independently. They are more motivated.
- ▶ **Competence:** When video games players win/clear one level they are more likely to remain engaged and motivated.
- ▶ **Relatedness:** Video games player's feels to need build relationship for playing game, so they connected or engaged with different people.

Significance of the Study

There is only few research about the positive impact of the video games on players. Most are about describe the negative phenomena of the video games. Current research would explore the decision-making power of video games players and see that how video games improved the cognitive skills of that people who comes from video games instead of physical games. Video games can help reduce stress of the players and also video games have cultural impact on players

Study Gap

Existing studies treat the video games as a just negative impact on games player. No researcher examined the decision-making skills/power of the video games player on individuals in Pakistan. So, the purpose of this study to motivate the people about the positive impact of video games that how video games enhanced the cognitive abilities of the players like multitasking skills, problem solving abilities, improve concentration abilities.

Methodology

Research Design

The research is based on quantitative in nature. It is a strategy that involves collecting and analyzing numerical data to explain real-world phenomena. Usually, researchers used tools in quantitative research for data collection.

Population

The population of the study for collecting the data comprises individuals from the general public who actually engage with video games.

Sample Frame

Researchers selected the sample for this study of youngsters from the general public.

Sample Size and Technique

Researchers collected the data from (n=189) youngsters from the video game players. Overall, during the selected time period, researchers distributed the 205 surveys, but 189 participants filled the survey. In this way the responses rate was 92.19%.

Researchers used a non-probability sampling technique. It is a method that involves purposive selection from a population in this way individuals are selected based on your study theme i.e., the individuals who are active video game players.

Data Collection Tool

Researchers used a self-design questionnaire tool for data collection. Current research study was based on data collected using self-designed questions (Likert scale based) consisting of two parts one (responded details) and second (questions related to the variables).

Data Analysis Techniques

Statistical package for the social science (SPSS) was used for the data analysis and interpretations. All collected data entered in SPSS sheet and analyzed the data and make tables and draw the diagram

Results

Table 1

Demographics of Respondents

S No.		Demographic	Frequency	Percentage
1	Gender	Male	80	42.6%
		Female	108	57.4%
2	Age	16–20	80	42.6%
		21–25	108	57.4%
3	Education	Matric or below	41	21.8%
		Intermediate	107	56.9%
		Graduation	40	21.3%
4	Time spends playing video games?	1–2 hours	22	11.7%
		3–4hours	29	15.4%
		More than 4 hours	49	26.1%
5	Playing video games experience (in years)	1 year	61	32.4%
		2 years	71	37.2%
		3 years	56	28.7%

Table 1 (demographic table) show that 42.6% were male responded and 57.4 % were female. The qualification of respondent (21.8% were matric or below and 56.9% intermediate and 21.3% were graduated. in demographic section respondent were asked that how many hours do you spend playing video games? Where 11.7% of the responded were 1–2 hours and 15.4% of the responded were 3–4 hours while 26.1% of the responded were More than 4 hours. Second question respondent were asked that how many years you have been playing video games. Where 32.4% of the responded were 1 year and 37.2% of the responded were 2 year while 28.7% of the responded were 3 year.

Table 2

Independent Variables (Video Game)

Question	Responses	f	%	SD	M
How often do you play video games?	Strongly agree	27	14.4%	1.247	2.96
	Agree	42	22.3%		
	Neutral	54	28.7%		
	Disagree	43	22.9%		
	Strongly disagree	20	10.6%		
Playing video games have a positive impact on my mental well-being.	Strongly agree	47	25.0%	1.112	2.24
	Agree	87	46.3%		
	Neutral	26	13.8%		
	Disagree	15	8.0%		
	Strongly disagree	12	6.4%		
Playing video games helps me relax and reduce stress.	Strongly agree	72	38.3%	.877	1.87
	Agree	82	43.6%		
	Neutral	22	11.7%		
	Disagree	11	5.9%		
	Strongly disagree	1	.5%		
I can process information faster after playing video games	Strongly agree	76	40.4%	.788	1.78
	Agree	84	44.7%		
	Neutral	21	11.2%		
	Disagree	7	3.7%		
	Strongly disagree	0	0.0%		

Question	Responses	f	%	SD	M
Playing video games has enhanced my ability to learn new skills	Strongly agree	73	38.8%	.782	1.80
	Agree	87	46.3%		
	Neutral	21	11.2%		
	Disagree	7	3.7%		
	Strongly disagree	0	0.0%		
Video game have improved my attention span.	Strongly agree	67	35.6%	.814	1.85
	Agree	93	49.5%		
	Neutral	17	9.0%		
	Disagree	11	5.9%		
	Strongly disagree	0	0.0%		
Playing video games helps me become more efficient at completing task.	Strongly agree	77	41.0%	.780	1.77
	Agree	85	45.2%		
	Neutral	19	10.1%		
	Disagree	7	3.7%		
	Strongly disagree	1	0.5%		
Video games boost my creativity and imagination.	Strongly agree	88	46.8%	.924	1.79
	Agree	68	36.2%		
	Neutral	16	8.5%		
	Disagree	16	8.5%		
	Strongly disagree	1	0.5%		
Do you like to play puzzle game?	Strongly agree	86	45.7%	.836	1.73
	Agree	77	41.0%		
	neutral	14	7.4%		
	Disagree	11	5.9%		
	Strongly disagree	1	0.5%		
Do puzzle improve attention and IQ	Strongly agree	79	42.0%	.846	1.80
	Agree	77	41.0%		
	Neutral	22	11.7%		
	Disagree	10	5.3%		
	Strongly disagree	1	0.5%		
I enjoy playing PUBG for its competitive game.	Strongly agree	72	38.4%	.764	1.77
	Agree	86	45.9%		
	Neutral	17	9.0%		
	Disagree	4	2.0%		
	Strongly disagree	2	1.0%		

Table 2 shows the statement that general public was asked how often they play video games where 14.4% of the respondents strongly agree 22.3% of the respondents agree and 28.7% of the respondents of neutral with the statement. 22.9% disagreed and 10.6% was strongly disagree. In the second question respondents were asked that Playing video games had a positive impact on their mental well-being. Where 25.0% of the respondents strongly agree and 46.3% of the respondents agree and 13.8% of the respondents of neutral with the statement. 8.0% disagreed and 6.4% was strongly disagree. The third question that respondents were asked that playing video games helps them relax and reduce stress. Where 38.3% of the respondents strongly agree 43.6% of the responded agree and 11.7% of the respondents of neutral with the statement. 5.9% disagreed and .5% was strongly disagree.

Another question that respondents were asked was whether I can process information faster after playing video games. Where 40.4 % of the responded strongly agreed 44.7% of the responded agreed and 11.2% of the respondents of neutral about the statement. 11.2% disagreed and 0 was strongly disagree. Another question that respondents were asked was whether playing video games has enhanced my ability to learn new skills. Where 38.8 % of the respondents strongly agree 46.3% of the responded agree and 11.2% of the respondents of neutral with the statement. 3.7% disagreed and did not responses in strongly

disagree. Another question that general public was asked was that Video games have improved my attention span. Where 35.6 %of the responded strongly agreed 49.5% of the responded agreed and 9.0% of the respondents of neutral about the statement. 5.9% disagreed and did not responses in strongly disagree. The question that the general public was asked is whether Playing video games helps me become more efficient at completing tasks. Where 41.0%of the respondents strongly agree 45.2% of the respondents agree and 10.1% of the respondents of neutral with the statement. 3.7% disagreed and 0 was strongly disagree.

Another Question that the general public was asked was whether Video games boost my creativity and imagination. 46.8 46.8%of the respondents strongly agree 36.2% of the respondents agree and 8.5% of the respondents of neutral with the statement. 8.5% disagreed and did not respond strongly disagree. Another Question that respondents were asked that do you like to play puzzle games. Where 45.7%of the respondents strongly agree 41.0% of the responded agree and 7.4% of the respondent of neutral with the statement. 5.9 disagreed and was not responses in strongly disagree. Another Question that respondent was asked that do puzzle improve attention and IQ. Where 42.0%of the responded strongly agree and 41.0% of the responded agree while 11.7% of the respondent of neutral with the statement. 5.3 disagreed and was not responses in strongly disagree.

Another Question that respondent was asked that I enjoy playing PUBG for its competitive game. Where 39.4%of the responded strongly agree and 47.9% of the responded agree while 9.0% of the respondent of neutral with the statement. 3.7 disagreed and was not responses in strongly disagree.

Table 3

Dependent variable (Problem solving ability)

Question	Responses	f	%	SD	M
I feel more confident in my problem-solving skills after playing video games	Strongly agree	83	44.1%	.785	1.73
	Agree	80	42.6%		
	Neutral	18	9.6%		
	Disagree	7	3.7%		
	Strongly disagree	0	0.0%		
Playing video games has improved my ability to think critically and make decision quickly.	Strongly agree	111	59.0%	.820	1.59
	Agree	51	27.1%		
	Neutral	19	10.1%		
	Disagree	7	3.7%		
	Strongly disagree	0	0.0%		
Playing video games has helped me improve my ability to analyze complex situation	Strongly agree	92	48.9%	.850	1.73
	Agree	63	33.5%		
	Neutral	25	13.3%		
	Disagree	8	4.3%		
	Strongly disagree	0	0.0%		
Solving challenges in Video games has made me better at handling unexpected problems in real life	Strongly agree	90	47.9%	.824	1.71
	Agree	72	38.3%		
	Neutral	17	9.0%		
	Disagree	9	4.8%		
	Strongly disagree	0	0.0%		

In Table 3 students were asked that they felt more confident in their problem-solving skills after playing video games. Where 44.1%of the respondents strongly agree 42.6% of the respondents agree while 9.6% of the respondents of neutral with the statement. 3.7% disagreed and did not respond strongly disagree. The second question students were asked was that playing video games has improved my ability to think

critically and make decisions quickly. 59.0 59.0%of the respondents strongly agree 27.1% of the respondents agree and 10.1% of the respondents of neutral with the statement. 3.7% disagreed and did not respond strongly disagree. The third question students were asked that playing video games has helped them improve their ability to analyze complex situations. 48.9 48.9%of the respondents strongly agree 33.5% of the respondents agree while 13.3% of the respondent of neutral with the statement. 4.3% disagreed and did not respond strongly. The fourth question students were asked Solving challenges in Video games has made me better at handling unexpected problems in real life Where 47.9%of the respondents strongly agreed 38.3% of the responded agreed and 9.0% of the respondents of neutral with the statement. 4.8% disagreed and did not respond strongly disagree

Table 4
Multitasking skills

Question	Responses	f	%	SD	M
Playing video games has improved my ability to multitask	▪ Strongly agree	71	37.8%	.860	1.86
	▪ Agree	85	45.2%		
	▪ Neutral	19	10.1%		
	▪ Disagree	13	6.9%		
	▪ Strongly disagree				
I am able to manage multiple objectives in video games efficiently.	▪ Strongly agree	77	41.0%	.815	1.80
	▪ Agree	80	42.6%		
	▪ Neutral	23	12.2%		
	▪ Disagree	8	4.3%		
	▪ Strongly disagree				
The multitasking skills I practice in videogames help me perform better in real life tasks.	▪ Strongly agree	79	42.0%	.831	1.81
	▪ Agree	73	38.8%		
	▪ Neutral	29	15.4%		
	▪ Disagree	7	3.7%		
I find myself using strategies learned from video games to juggle different responsibilities in y daily life.	▪ Strongly disagree			.762	1.78
	▪ Strongly agree	76	40.4%		
	▪ Agree	82	43.6%		
	▪ Neutral	26	13.8%		
	▪ Disagree	4	2.1%		
	▪ Strongly disagree	0	0.0%		

In the table 4 students were asked that playing video games has improved my ability to multitask. Where 37.8%of the responded strongly agree and 45.2% of the responded agree while 10.1% of the respondent of neutral with the statement. 6.9% disagreed and was not responses in strongly disagree. Second question students were asked that I am able to manage multiple objectives in video games efficiently. Where 41.0%of the responded strongly agree and 42.6% of the responded agree while 12.2% of the respondent of neutral with the statement. 4.3% disagreed and was not responses in strongly disagree. Third question students were asked that the multitasking skills I practice in videogames help me perform better in real life tasks. Where 42.0%of the responded strongly agree and 38.8% of the responded agree while 15.4% of the respondent of neutral with the statement. 3.7% disagreed and was not responses in strongly disagree. Forth question students were asked that I find myself using strategies learned from video games to juggle different responsibilities in daily life. Where 40.4%of the responded strongly agree and 43.6% of the responded agree while 13.8% of the respondent of neutral with the statement. 2.2% disagreed and was not responses in strongly disagree

Table 5*Critical Thinking Ability*

Question	Responses	F	%	SD	M
I make decisions quickly and confidently in both video games and real life	▪ Strongly agree	86	45.7%	.773	1.70
	▪ Agree	80	42.6%		
	▪ Neutral	15	8.0%		
	▪ Disagree	7	3.7%		
	▪ Strongly disagree	0	0.0%		
I come up with creative solutions to problems in video games.	▪ Strongly agree	73	38.8%	.803	1.81
	▪ Agree	85	45.2%		
	▪ Neutral	22	11.7%		
	▪ Disagree	8	4.3%		
	▪ Strongly disagree	0	0.0%		
I stay calm and think clearly even when I need to adjust to new challenges.	▪ Strongly agree	85	45.2%	.838	1.77
	▪ Agree	68	36.2%		
	▪ Neutral	28	14.9%		
	▪ Disagree	7	3.7%		
	▪ Strongly disagree	0	0.0%		
I can quickly identify the best solution when faced with a difficult problem	▪ Strongly agree	86	45.7%	.861	1.78
	▪ Agree	67	35.6%		
	▪ Neutral	26	13.8%		
	▪ Disagree	9	4.8%		
	▪ Strongly disagree	0	0.0%		

In table 5 students were asked that I make decisions quickly and confidently in both video games and real life. Where 45.7% of the responded strongly agree and 42.6% of the responded agree while 8.0% of the respondent of neutral with the statement. 3.7% disagreed and was not responses in strongly disagree. Second question students were asked that I come up with creative solutions to problems in video games. Where 38.8 % of the responded strongly agree and 45.2% of the responded agree while 11.7% of the respondent of neutral with the statement. 4.3% disagreed and was not responses in strongly disagree. Third question students were asked that I stay calm and think clearly even when I need to adjust to new challenges. Where 45.2% of the responded strongly agree and 36.2% of the responded agree while 14.9% of the respondent of neutral with the statement. 3.7% disagreed and was not responses in strongly disagree. Forth question students were asked that I can quickly identify the best solution when faced with a difficult problem Where 45.7% of the responded strongly agree and 35.6% of the responded agree while 13.8% of the respondent of neutral with the statement. 4.8% disagreed and was not responses in strongly disagree.

Table 6*Goal Orientation*

Question	Responses	F	%	SD	M
Video games playing improve my skills and learn new strategies.	▪ Strongly agree	89	47.3%	.791	1.71
	▪ Agree	70	37.2%		
	▪ Neutral	24	12.8%		
	▪ Disagree	5	2.7%		
	▪ Strongly disagree	0	0.0%		
I accept my defeat happily and more effort for next play.	▪ Strongly agree	73	38.5%	.846	1.84
	▪ Agree	78	41.5%		
	▪ Neutral	29	15.4%		
	▪ Disagree	6	3.2%		
	▪ Strongly disagree	1	.5%		
I continue to play a game even after failing multiple times.	▪ Strongly agree	67	35.6%	.873	1.91
	▪ Agree	81	43.1%		
	▪ Neutral	31	16.5%		
	▪ Disagree	7	3.7%		
	▪ Strongly disagree	2	1.1%		

I set specific, measurable goals for myself when playing video games.	▪ Strongly agree	76	40.4%	.844	1.84
	▪ Agree	73	38.8%		
	▪ Neutral	33	17.6%		
	▪ Disagree	5	2.7%		
	▪ Strongly disagree	1	.5%		

In table 6 students were asked that Video games playing improve my skills and learn new strategies. Where 47.3% of the responded strongly agree and 37.2% of the responded agree while 12.8% of the respondent of neutral with the statement. 2.7% disagreed and was not responses in strongly disagree. Second question students were asked that I accept my defeat happily and more effort for next play. Where 38.5 % of the responded strongly agree and 41.5% of the responded agree while 15.4% of the respondent of neutral with the statement. 3.2% disagreed and was .5% responses in strongly disagree. Third question students were asked that I continue to play a game even after failing multiple times. Where 35.6% of the responded strongly agree and 43.1% of the responded agree while 16.5% of the respondent of neutral with the statement. 3.7% disagreed and was 1.1% responses in strongly disagree. Forth question students were asked that I set specific, measurable goals for myself when playing video games Where 40.4% of the responded strongly agree and 38.8% of the responded agree while 17.6% of the respondent of neutral with the statement. 2.7% disagreed and was .5% responses in strongly disagree.

Table 7

Collaborative Abilities

Question	Responses	F	%	SD	M
I often contribute creative solutions when my team encounter a problem in the game.	▪ Strongly agree	76	40.4%	1.034	1.92
	▪ Agree	74	39.0%		
	▪ Neutral	24	12.8%		
	▪ Disagree	5	2.7%		
	▪ Strongly disagree	9	4.8%		
I am able to help my team make decision quickly and efficiently under pressure	▪ Strongly agree	72	38.3%	.991	1.95
	▪ Agree	75	39.9%		
	▪ Neutral	24	12.8%		
	▪ Disagree	13	6.9%		
	▪ Strongly disagree	4	2.1%		
I am effective at motivating my team toward achieving our goals.	▪ Strongly agree	96	51.1%	1.123	1.84
	▪ Agree	57	30.3%		
	▪ Neutral	15	8.0%		
	▪ Disagree	10	5.3%		
	▪ Strongly disagree	10	5.3%		
I am open to receiving constructive feedback from my teammates.	▪ Strongly agree	86	45.7%	.993	1.85
	▪ Agree	64	34.0%		
	▪ Neutral	23	12.2%		
	▪ Disagree	11	5.9%		
	▪ Strongly disagree	4	2.1%		
playing video games improved my ability to collaborate in real life	▪ Strongly agree	86	45.7%	1.033	1.87
	▪ Agree	63	33.5%		
	▪ Neutral	23	12.2%		
	▪ Disagree	10	5.3%		
	▪ Strongly disagree	6	3.2%		

In Table 7 students were asked that I often contribute creative solutions when my team encounters a problem in the game. Where 40.4% of the responded strongly agreed 39.0% of the respondents agreed and 12.8% of the respondents of neutral with the statement. 2.7% disagreed and 4.8% responses strongly disagreed. The second question students were asked was that I could help my team make decisions quickly and efficiently under pressure. Where 38.3 % of the respondents strongly agree 39.9% of the responded agree and 12.8% of the respondents of neutral with the statement. 6.9% disagreed and 2.1% responses strongly disagreed. The third question students were asked that I am effective at motivating my team

toward achieving our goals. 51.1% of the respondents strongly agree 30.3% of the respondents agree and 8.0% of the respondent of neutral with the statement. 5.3% disagreed and 5.3% responses strongly disagreed. Forth question students were asked that I am open to receiving constructive feedback from my teammates. Where 45.7% of the respondents strongly agree 34.0% of the respondents agree and 2.2% of the respondents of neutral with the statement. 5.9% disagreed and 2.1% responded strongly disagree and the fifth question students were asked was that playing video games improved my ability to collaborate in real life. Where 45.7% of the responded strongly agreed 33.5% of the responded agreed and 12.2% of the respondents of neutral about the statement. 5.3% disagreed and 3.2% responses strongly disagree

Table 8*Fast Decision Speed*

Question	Responses	f	%	SD	M
I can make quick decision in high pressure situation while playing video games.	Strongly agree	81	43.1	.865	1.82
	Agree	69	36.7		
	Neutral	29	15.4		
	Disagree	9	4.8		
	Strongly disagree	0	0		
Video has improved my ability to respond rapidly to change situation.	Strongly agree	80	42.6	.683	1.70
	Agree	84	44.7		
	Neutral	24	12.8		
	Disagree	0	0		
	Strongly disagree	0	0		
My reaction time has improved as a result of playing fast paced video games.	Strongly agree	89	47.3	.861	1.71
	Agree	72	38.3		
	Neutral	19	10.1		
	Disagree	8	4.3		
	Strongly disagree	0	0		
Video game have enhanced my multitasking allowing me to make faster decision.	Strongly agree	70	37.2	1.71	1.86
	Agree	85	45.2		
	Neutral	23	12.2		
	Disagree	10	5.3		
	Strongly disagree	0	0		

In table 8 students were asked that I can make quick decision in high pressure situation while playing video games, where 43.1% of the responded strongly agree and 36.7% of the responded agree while 15.4% of the respondent of neutral with the statement. 4.8% disagreed and was not responses in strongly disagree. Second question students were asked that Video has improved my ability to respond rapidly to change situation Where 42.6 % of the responded strongly agree and 44.7% of the responded agree while 12.8% of the respondent of neutral with the statement. 6.9% disagreed and was 2.1% responses in strongly disagree. Third question students were asked that my reaction time has improved as a result of playing fast paced video games. Where 47.3% of the responded strongly agree and 38.3% of the responded agree while 10.1% of the respondent of neutral with the statement. 4.3% disagreed and was not responses in strongly disagree. Forth question students were asked that Video game have enhanced my multitasking allowing me to make faster decision. Where 37.2% of the responded strongly agree and 45.2% of the responded agree while 12.2% of the respondent of neutral with the statement. 5.3% disagreed and was not responses in strongly disagree.

Table 9*Enhance Brain Activity*

Question	Responses	F	%	SD	M
Playing video games improves my ability to focus on complex tasks.	Strongly agree	79	42.0	1.212	2.03
	Agree	64	34.0		
	Neutral	23	12.2		
	disagree	5	2.7		
	Strongly disagree	17	9.0		

Question	Responses	F	%	SD	M
Video games players have better problem-solving skills compared to non-players.	Strongly agree	75	39.9	1.197	2.03
	Agree	70	37.2		
	Neutral	23	12.2		
	disagree	2	1.1		
	Strongly disagree	18	9.6		
Video games help improve my memory and recall abilities.	Strongly agree	71	37.8	1.167	2.04
	Agree	77	41.0		
	Neutral	17	9.0		
	disagree	8	4.3		
	Strongly disagree	15	8.0		
Video game players can respond to stimuli more quickly than non-players	Strongly agree	64	34.0	1.194	2.11
	Agree	81	43.1		
	Neutral	19	10.1		
	disagree	6	3.2		
	Strongly disagree	18	9.6		
Video games contribute to overall brain health and function.	Strongly agree	49	26.1	1.06948	2.1649
	Agree	92	48.9		
	Neutral	26	13.8		
	disagree	9	4.8		
	Strongly disagree	12	6.4		

In table 9 students were asked that playing video games improves my ability to focus on complex tasks, where 42.0% of the responded strongly agree and 34.0% of the responded agree while 12.2% of the respondent of neutral with the statement. 2.7% disagreed and was 9.0% responses in strongly disagree. Second question students were asked that Video games players have better problem-solving skills compared to non-players. Where 39.9 % of the responded strongly agree and 37.2% of the responded agree while 12.2% of the respondent of neutral with the statement. 1.1% disagreed and was 9.6% responses in strongly disagree. Third question students were asked that Video games help improve my memory and recall abilities. Where 37.8% of the responded strongly agree and 41.0% of the responded agree while 9.0% of the respondent of neutral with the statement. 4.3% disagreed and was 8.0% responses in strongly disagree. Forth question students were asked that Video game players can respond to stimuli more quickly than non-players. Where 34.0% of the responded strongly agree and 43.1% of the responded agree while 10.1% of the respondent of neutral with the statement. 3.2% disagreed and was 9.6% responses in strongly disagree and the fifth question students were asked that Video games contribute to overall brain health and function. Where 26.1% of the responded strongly agree and 48.9% of the responded agree while 13.8% of the respondent of neutral with the statement. 4.8% disagreed and was 6.4% responses in strongly disagree.

Discussion

The research deals with the impact of video games on players' decision-making power. Today's video games are powerful tools for learning, and cognitive development and also can be earned Sometimes video games for relaxation, creativity, and socialization, and are mostly played to prevent boredom. The findings of this research that video games enhanced the cognitive abilities of the players (problem-solving abilities, enhanced brain functions, concentration abilities, multitasking, cultural impact, and reaction times). This research result accordance with the previous research. Oscarido et al., (2023) players who played games for a long time spent more time playing video games were found more improve their decision-making power. Video games enhanced the fast decision speed of the players the result of this statement is relevant to the study of (Atreya, 2022). Video game players have faster reaction time as compared to non-video game players (NVGP). Hisam et al. (2018) the findings of this study that gamers were quicker in processing speed, and mathematical intelligence. And that Students who played games long-term felt improvement in cognitive skills. Video games enhance Critical thinking ability. The result of this statement matches with the study of Kumar et al. (2023) the finding of this study is that video games a beneficial for learning and socialization students must play games one hour per day. Video games create faster creativity, and games

improve the communication skills of players. Videogames enhance the brain function of the players. The result of this statement of my study matches with multiple studies by researchers (Oei et al., [2013](#)). The finding of this study is that video games eliminate visual attention and improve cognitive skills but, in some tasks, they predict the improvement of some other abilities like spatial memory and complex verbal span. Video games enhance several cognitive and perceptual abilities (Zioga et al., [2024](#)). The findings of this study are that video games impact cognitive skills and effective effects on players like puzzle games showed a positive impact on working memory (Valimaki et al., [2021](#)). The finding of the study was the beneficial impact of video games on schizophrenia patients' mental health. Video games enhanced the collaborative abilities. The result of this statement of my study is relevant to the study of Khalid et al. ([2019](#)) the findings of the study where video game has a positive impact on teenage learning and improved quick-thinking, social skills, and information literacy.

Video games enhance the overall cognitive function of the players (Chandra et al., [2016](#)). The findings of this study are that after the training of action games, the experimental group showed enhancement in cognitive abilities. The result of this article is same them as almost all previous studies. This research study found that video has a beneficial and cognitive impact on players' decision-making power. My study results are relevant to the self-determination theory (Deci, Rayan, [1985](#)). Intrinsic motivation and self-determination in human behavior. Video games enhance players confidence levels, and they can take decisions independently. They are more motivated. Video game players need to build relationships by playing Games so they can connect or engage with different people.

Conclusion

The study concluded that video games have a cognitive impact on player's decision-making power. In the modern era where video games emerged in modern technologies, the problem is that many peoples think that video games have only a negative impact on players. But the fact is that video gaming has increased the cognitive abilities of the players. They enhanced multitasking skills, brain functions, problem-solving abilities, critical thinking abilities, collaborative abilities, goal orientation, etc. However, the effect of the video games depends on the playing time duration. Players who played games for a long time spent more time playing video games and were found more improvement in their decision-making power. With a balanced duration, players gain cognitive growth and hone decision-making skills.

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