

De-Marketing Factors Influencing Saudi Multiplayer Online Gamers: A Pink Marketing Perspective

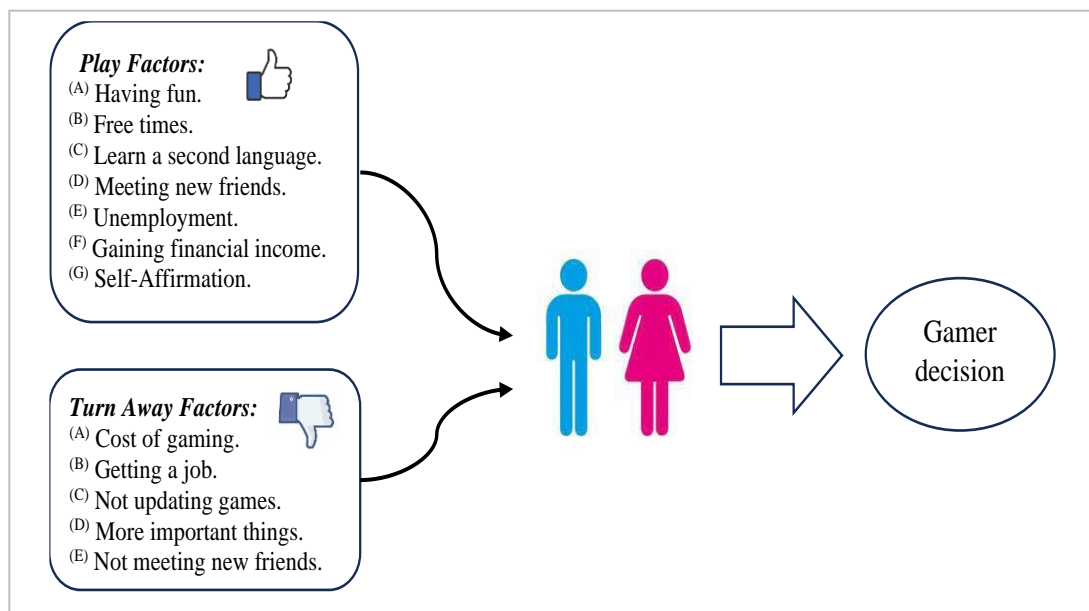
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Abstract

This study explores the factors driving young gamers away from multiplayer online games (MOGs) through a pink marketing lens, focusing on marketing strategies targeted at or influenced by women, and investigates how gender differences impact these dynamics. Unlike previous research primarily focused on the effects of MOGs on gamers' behavior, this research uniquely examines the reasons behind gamers' disengagement. Employing both quantitative and qualitative methods, data from 685 online gamers in Saudi Arabia were analyzed. Gender was assessed as a mediating factor for 12 variables influencing gamers' decisions to engage or withdraw from MOGs, revealing support for 8 factors favoring engagement. These findings bear significant implications for both academic research and practical applications in marketing and de-marketing MOGs. Future studies could extend beyond gender dynamics, exploring alternative factors and conducting cross-cultural comparisons to enrich our understanding further.

Keywords Consumer Behavior, Multiplayer Online Gaming, De-marketing, Pink Marketing, Saudi Arabia.

Graphical Abstract



1. Introduction

The number of Internet users is increasing rapidly. By the end of 2023, there were over 4.7 billion active users, representing 60% of the global population of 7.8 billion (Abdelkader O. A., 2023). One of the most important factors in increasing Internet users is the continuous development of platforms and applications to suit all ages and different levels of education (Kahila & et al., 2023); (Raith, Bignill, Stavropoulos, Millear, & et al., 2021). According to the published statistics on the websites of “Newzoo” and “Statista”, entertainment is one of the most popular uses of the Internet. Consequently, the total number of offline and online gamers has surpassed 3.2 billion. This number is increasing rapidly and continuously, especially among kids and young people (Rosendo-Rios, Trott, & Shukla, 2022). The map of gaming penetration around the world is distributed as follows: 55% Asia and the Pacific, 15% Middle East and Africa, 13% Europe, 10% Latin America, and 7% North America. The total spending by gamers around the world reached around \$197 billion annually, distributed among game segments as follows: 53% Mobile Games, 27% Console Games, 19% downloaded or boxed games, and 1% Browser PC Games (Palma-Ruiz & et al., 2022).

The history of electronic games started with offline video games individually, until they reached online games for unlimited number of gamers which is called MOGs (Banfi, 2023). What is the difference in meaning between a "gamer" and a "player"? When you are a gamer, that means a continuous state, whereas being a "player" is only in effect while you are playing (Chen, Mari, Grech, & Levitt, 2020). Also, while you are in the process of playing a game, you are both a "player" and a "gamer" at once (Wang & Cheng, 2022); (Chen, Mari, Grech, & Levitt, 2020). Millions of gamers from all over the world participate in this version of highly developed games, which are constantly updated to be more attractive and exciting, as shown in table 1 for the top 10 online games in the world.

Table 1: Top 10 MOGs by Total Gamers (Jan. 2024)

Rank	Game name	Online gamers (by millions)	Lunch year
1	PUBG	100	2018
2	Minecraft	95	2011
3	Apex Legends	50	2019
4	Fortnite Battle Royale	45	2017
5	Counter-Strike	35	2012
6	Hearthstone	30	2012
7	League of Legends	27	2009
8	Call of Duty Mobile	15	2019
9	Among Us	8	2018
10	Call of Duty Warzone	6	2020

Source: The published statistics on the websites of “Newzoo” and “Statista”

Therefore, specialized companies compete to develop applications for entertainment games via the Internet to attract the largest number of gamers and maximize their revenues (Tsai & Chen, 2021); (Abdelkader O. , 2021). Two of the main objectives that researchers should focus on are the impact of online games on a large and growing sector of young human resources and the huge volume of investments in this sector. The revenues of online game development companies grew as follows (in US dollars): 30 Billion in 2006, 46.5 Billion in 2009, and 197 Billion in 2022. The revenues of the top 10 companies developing online games in 2022 are shown in table 2.

Table 2: Top 10 Developers of MOGs by Annual Revenue in 2022

Rank	Company	Revenue (Billions of US \$)
1	Tencent	7.964
2	Sony	4.823
3	Apple	4.421
4	Microsoft	3.998
5	Google	2.969
6	Nintendo	2.785
7	NetEase	2.738
8	Activision Blizzard	1.905
9	Electronic Arts	1.789
10	Take-Two Interactive	0.903

Source: The published statistics on the websites of “Newzoo” and “Statista”

The Corona pandemic during the period 2019–2021 helped to grow the use of the Internet globally, including online games (Barr & Copeland-Stewart, 2022); (Kim, 2021). It should be noted that scientific publications on this subject have increased before, during, and after the Corona pandemic, and it is not true that it only started during the crisis period as some expect (Xu, Park, Kang, Choi, & Koo, 2021); (Kim, 2021). Figure 1 shows the growing interest of authors around the world in the topic of video and online games and that it is a continuation of studies in this context during the last two decade (Banfi, 2023); (Abdelkader O. A., 2021).

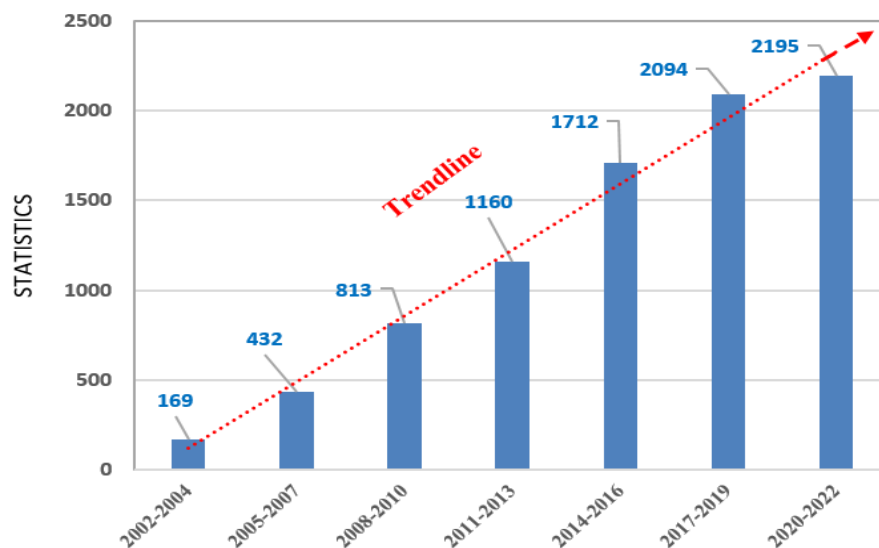


Figure 1: Statistics of publications' titles included “Online Games” based on WOS database during 2002-2022.

The previous literature that studied the behavior of online game players focused on the most common games among them, the harm of games to young players, and the benefits of some games in different fields of education (Abdelkader O. , 2021). A set of previous studies has also explored the factors that drive gamers to play (Micallef, Brennan, Parker, Schivinski, & Jackson, 2021), (Stone, Mills, & Saggars, 2019), and (Han, Kwak, & Kim, 2022). On the other hand, previous studies indicate that there is a research gap represented by the need to focus on studying the factors that drive gamers to turn away from online games.

The current study aims to discuss the answers to the following research questions:

RQ1: What are the major factors that drive gamers to turn away from online games?

RQ2: Are there any gender differences among gamers to the extent to which they are affected by the factors that lead them to turn away from online games?

Based on the foregoing regarding the research questions, the objectives of the current study can be formulated as follows:

RO1: Investigate the major factors that drive gamers to turn away from online games.

RO2: Testing the degree of variation among gamers to the extent to which they are affected by the factors that lead them to turn away from online games according to gender differences.

2. Literature Review

This section of the study was devoted to reviewing previous literature related to the subject of the research and deducing research hypotheses that achieve the research objectives and answer its questions. Based on the Web of Science WOS database, there are 8991 previous manuscripts whose titles include the keywords “video game” or “online game” until the end of the year 2023. Around 52% of these publications focused on computer sciences and games applications. Most of the other manuscripts discussed the several negative behavioral effects of online gaming on gamers and society (Micallef, Brennan, Parker, Schivinski, & Jackson, 2021). The previous publications included only 27 review articles, which were relied upon in the following three subsections: consequences of Internet gaming addiction, gender differences impact, and research hypotheses.

2.1 Consequences of Internet Gaming Addiction (OGA)

A small percentage of previous studies support a limited set of positive effects of online games in some areas, for example: improving the second language (Tushya & Abraham, 2023), teamwork “we-ness”, online education and learning (Abdelkader O. , 2021); (Haruna, et al., 2021), openness to other cultures (Keating, 2016); (Arbeau, Thorpe, Stinson, Budlong, & Wolff, 2020), engagement with society and treatment of introversion (Seiwald, 2023); (Stone, Mills, & Saggars, 2019), and entertainment during difficult periods such as the Corona pandemic crisis (Shan & Pi, 2023); (Barr & Copeland-Stewart, 2022). Nevertheless, the results of most previous studies warn that the consequences of online game addiction on gamers and society are still numerous and influential (Tuguinay, Prentice, & Moyle, 2022); (Xu, Park, Kang, Choi, & Koo, 2021). Some of these studies indicate the effect of these games on increasing behavioral violence (Han, Kwak, & Kim, 2022), and the possibility of sexual violence resulting from the pornographic contents (Guggisberg, 2020).

Several previous studies report many negative consequences for addicted online gamers academic achievement (Turner, Johnston, Kebritchi, Evans, & Heflich, 2018) and professional performance (Barr & Copeland-Stewart, 2022). Many of the health problems that occur to addicts of online games have been proven through a lot of medical publications. In the same context, the American Psychiatric Association (APA) included Internet Gaming Disorder (IGD) in the Sections of the Diagnostic and Statistical Manual for Mental Disorders (Gioia, Colella, & Boursier, 2022). In this context, the term “Internet Gaming Addiction” (IGA) should be explained clearly to those who want to study any topic related to MOGs. In general, IGA is defined as a problematic psychological addiction, with gamers feeling compelled to play and their excessive focus on success in the game resulting in a significant impairment in their ability to perform in various life activities over a prolonged period (Hu, et al., 2022). Social concern regarding Internet gaming problems has been increasing over the past two decades (Gioia, Colella, & Boursier, 2022). Most previous studies focused on computer science techniques for these games or simply on observing the behavior of gamers, which raises an important research question about the factors that may drive gamers to turn away from these games (Kim & Kim,

2022). There is a set of components proposed for gaming, including achievement, immersion, and social (Wang & Cheng, 2022). In view of the importance of the online gaming industry, some previous studies suggested state intervention in the governance of the industry, while other studies opposed this idea (Anh, 2021).

This subsection shows that online game addiction leads to a significant waste of human and financial resources. It also highlights the importance of studying the factors that lead online players to quit gaming, which is one of the two main goals of this study.

2.2 Pink Marketing and De-marketing

The contemporary concept of marketing expands to include all human transactions at the level of individuals, institutions, and countries. Literary studies since the emergence of the science of marketing in 1905 have included more than 17 meta-analyses reporting a set of gender differences in human dealings, which is known as the term "pink marketing" that appeared in studies published in the last two decades (Abdelkader & Abdelkader, 2019). Just as marketing involves efforts to persuade others to take a certain action, there are also activities aimed at discouraging actions, known as "de-marketing" (Abdelkader O. A., 2021). The answer to the question: Why does gamers keep playing online games? Perhaps that helps in exploring factors that drive gamers to turn away from these games (Kim & Kim, 2022). It should be known that these games are categorized into entertainment and non-entertainment games, and that about 97% of video games and online games belong to the entertainment category (Raith, Bignill, Stavropoulos, Milliar, & et al., 2021). Developers of these games are making great efforts to attract the largest number of users, which has reached 3.2 billion. Although online games are used by all ages, the reference sheets indicate that the average age of the gamers is around 25 years (Griffiths, 2022), and (Barr & Copeland-Stewart, 2022), and that most of them are male (Akbari & et al., 2021). Estimates of the percentage of male gamers range from 67% to 85% (Hu, et al., 2022), while the percentage of female gamers ranges from 15% to 33% (Şalvarlı & Griffiths, 2019), and (Woods, 2021).

Both males and females are involved in online games (Abdelkader O. A., 2021), but with different types of games and the duration of gaming (Gioia, Colella, & Boursier, 2022) and (Abdelkader & Abdelkader, 2019). Males are more likely to be addicted to online games (Palma-Ruiz & et al., 2022), and more likely to acquire violent behaviors through those games, and they spend more time than females playing games. The percentage of males in some online fighting games reached 98% (Nguyen, Sun, & Williams, 2022). Males in team games are less help seeking compared to females. It is common for females to play on mobile phones, while males are more likely to use laptops (Columb, Griffiths, & O'Gara, 2022). A group of previous studies indicate that males are more susceptible to online gaming disorders compared to females and are more inclined to violence and combative games (Chen, Mari, Grech, & Levitt, 2020). Some previous studies indicate that there is a strong positive effect of encouragement on female online gamers, and on the contrary, male gamers deal negatively with words of encouragement (Lovász & et al., 2022).

This subsection of the study highlights the importance of examining gender differences in susceptibility to the factors that lead to playing online games or turning away from them, which is the second objective of this study.

2.3 Research Hypotheses

The objectives of the current study can be achieved by testing the following hypotheses:

H1: There are gender differences among online gamers in the extent to which they are affected by the following factors that drive them to continue playing: (H1_A): Having fun, (H1_B): Occupation of free time, (H1_C): Learn a second language, (H1_D): Meeting new friends, (H1_E): The unemployment, (H1_F): Gaining financial income, and (H1_G): Self-affirmation.

H2: There are gender differences among online gamers in the extent to which they are affected by the following factors that drive them to turn away from playing: (H2_A): Cost of gaming, (H2_B): Getting a job, (H2_C): Not updating games, (H2_D): More important things, and (H2_E): Not meeting new friends.

3. Methodology

All procedures performed in this study adhered to ethical standards. Informed consent was obtained from all individual participants, in compliance with the ethical guidelines of Imam Abdulrahman Bin Faisal University (IAU) and its Institutional Review Board (IRB Number: IRB-2024-14-297), under the Saudi National Committee of Bioethics (NCBE) (HAP-05-D003).

3.1 The Research Instrument and Validity

This study is built on an e-questionnaire, which was prepared through four main stages before its validity was approved as a research instrument to test the study hypotheses. First, relying on previous studies and review papers in building the theoretical framework of the study and exploring the factors and variables. Second, conducting personal interviews with 25 online gamers with the aim of brainstorming to identify the factors that drive them to play online or to turn away from it. Third, initial editing of the questionnaire and sending it to 6 experts in fields related to the subject of the research, represented in the following (marketing, statistics, computers, addiction, mental health, and education). Fourth, the recommendations received from the experts were considered to improve the questionnaire and then sent to a sample of 30 online gamers to ensure that the wording fits the research objectives.

Finally, the questionnaire includes three main sections: the first is to describe the demographic data of the participants and to identify the average daily playing time. The second section is to measure the impact of 7 factors on gamers' attitudes towards online gaming: having fun, occupying free time, learning a second language, meeting new friends, Unemployment, Gaining financial income, and Self-affirmation. The third section is to measure the impact of 5 factors on gamers turning away from online games: cost of gaming, finding a job, Not updating games, More important things, and Not meeting new friends. The questionnaire is based on selecting the strongest factor that drives each player to play or turn away from playing. In other words, it relied on each participant selecting only one factor and not on a Likert scale based on the suggestion of Morgan and Lewis (2016) (Morgan & Lewis, 2016). This analytical technique fits the objectives of the study regarding exploring the strongest factors that lead players to play or leave it, depending on the frequencies, percentages, and ranks of what is chosen from the large sample of players (Sekaran & Bougie, 2016).

3.2 Research Community and Sampling

Table 3: Demographic Description of The Collected Data

Characteristics	Items	Frequencies (685)	%
Gender	Male	386	56.4
	Female	299	43.6
Age	18 and younger	82	12.0
	19 – 25	383	55.9
	26 – 30	133	19.4
	31 – 36	51	7.4
	37 and older	36	5.3%

The research community consisted of online gamers. Electronic data were collected through an open-access Google Form link during April 2024. A total of 685 online gamers participated, as

shown in table 3. The study sample is consistent with previous studies, with most male participants between the ages of 19 and 25.

4. Results and Discussions

This section of the current study explains and discusses the findings of the statistical tests through the following four subsections: data description and analysis, results of hypotheses test, discussions, and theoretical contributions and practical implications.

4.1 Data Description and Analysis

The data collected were analyzed using SPSS V²¹. The reliability of the research instrument was assessed using Cronbach's alpha criterion, which yielded a score of ($\alpha = .87$). This score is consistent with the objectives and specialization of the research, according to specialized statistical studies in the field of psychometrics (Morgan & Lewis, 2016), and (Sekaran & Bougie, 2016). The gender differences among gamers towards factors driving them to play online games or turn away from gaming are shown clearly in Table 4.

Table 4: Investigated Factors to Play or Not Play Online Multiplayer Games

Factors	Male: 56.4% (386)			Female: 43.6% (299)		
	Frequency	%	Rank	Frequency	%	Rank
Play Factors:						
(A) Having fun.	219	56.8	1	193	64.5	1
(B) Free times.	73	18.9	2	77	25.8	2
(C) Learn a second language.	10	2.7	5	16	5.4	3
(D) Meeting new friends.	31	8.1	3	7	2.2	4
(E) Unemployment.	21	5.4	4	7	2.2	4
(F) Gaining financial income.	21	5.4	4	0	0	-
(G) Self-Affirmation.	10	2.7	5	0	0	-
Turn Away Factors:						
(A) Cost of gaming.	10	2.7	4	16	5.4	4
(B) Getting a job.	31	8.1	2	26	8.6	2
(C) Not updating games.	0	0	-	19	6.5	3
(D) More important things.	282	73.0	1	199	66.7	1
(E) Not meeting new friends.	21	5.4	3	16	5.4	4
I will never ever stop gaming.	42	10.8		22	7.5	-

The analysis ranks factors according to the extent to which they influence gamers to play or to turn away from playing online. Table 4 also indicates the percentage of gamers who chose "I never ever stop gaming," which reached 10.8% for males and 7.5% for females. This suggests that a small but significant percentage of gamers are highly committed to gaming and do not see themselves ever quitting. In addition to the findings presented in table 4, the analysis also revealed some other interesting gender differences. For example, males were more likely to report that they played online games to "relax and de-stress," while females were more likely to report that they played online games to "socialize with friends." These findings suggest that there are some different motivations for gaming among males and females.

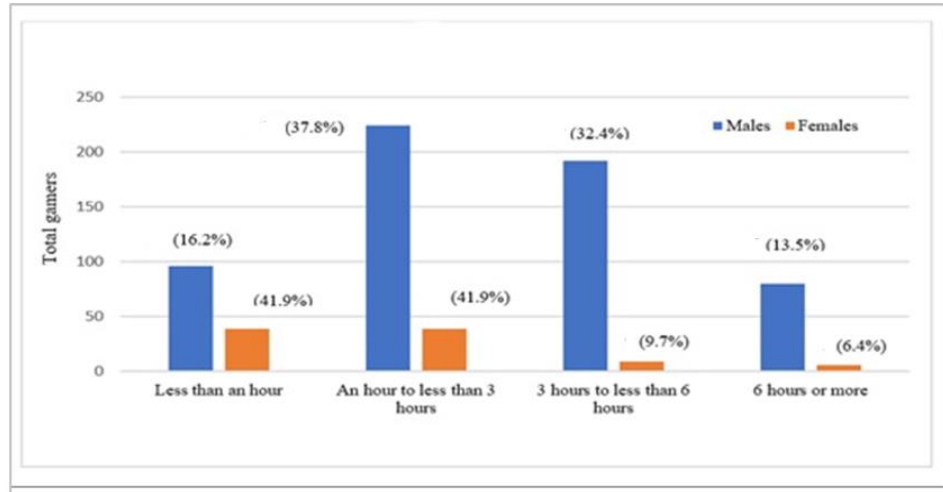


Figure 2: Daily Average Duration of MOGs Sessions by Gender

Figure 2 shows the sample results for the average daily time spent by male and female gamers online. It shows how male gamers spend a lot more time online compared to female gamers, with the average male gamer spending more than 5 hours per day online compared to lower than 2 hours for the average female gamer. This difference could be due to several factors, such as the different motivations for gaming among males and females or the different types of games that males and females tend to play. The findings of this analysis provide valuable insights into the factors that drive gamers to play online games or turn away from gaming. The findings also highlight some important gender differences in the motivations for gaming. These findings can be used to inform the design of online games and to develop interventions to help gamers who are struggling with addiction or other problems.

4.2 Results of hypotheses test

Table 5: The Hypotheses Test Results

Hypotheses/ sub-hypotheses	Sig.	Test Results	Statistical measures
H1: Gender → Play factors:			
(H1 _A) Having fun.	Null	Not supported	
(H1 _B) Free times.	*	Supported	
(H1 _C) Learn a second language.	**	Supported	Phi (0.161)
(H1 _D) Meeting new friends.	***	Supported	Cramer's V (0.161)
(H1 _E) Unemployment.	**	Supported	Contingency Coefficient (0.159)
(H1 _F) Gaining financial income.	***	Supported	
(H1 _G) Self-Affirmation.	***	Supported	
H2: Gender → Turn away factors:			
(H2 _A) Cost of gaming.	**	Supported	
(H2 _B) Getting a job.	Null	Not supported	Phi (0.246)
(H2 _C) Not updating games.	***	Supported	Cramer's V (0.246)
(H2 _D) More important things.	Null	Not supported	Contingency Coefficient (0.239)
(H2 _E) Not meeting new friends.	Null	Not supported	

Significant of significance level: (***) $p < .001$, (**) $p < .01$, and (*) $p < .05$.

The research hypotheses test gender differences to the extent to which a group of factors influence gamers towards online gaming (8 factors) or away from it (4 factors). The results

support accepting all eight sub-hypotheses of H1, except (H1_A) for the "Having fun" factor. Thus, there are significant gender differences among online gamers to the extent to which they are affected by the other 6 factors related to playing. As for the second hypothesis, all its sub-hypotheses were accepted except three: (H2_B) "Getting a job", (H2_D) "More important things", and (H2_E) "Not meeting new friends". That means there are significant gender differences among online gamers to the extent to which they are affected by the other three factors that lead them to turn away from playing. Table 5 shows the significance levels ($p = .05, .01, \text{ and } .001$) for each accepted sub-hypothesis. The statistical measures that were used in testing gender differences "Nominal by Nominal" are: Phi, Cramer's V., and Contingency Coefficient. Their statistical values were (from.159 to.161) for H1 and (from.239 to.246) for H2.

4.3 Discussions

The results of the current study indicate that the number of male online gamers is higher than that of female gamers. That is consistent with the results of a group of previous studies (e.g., (Wang & Cheng, 2022); (Rosendo-Rios, Trott, & Shukla, 2022) in the comparison between males and females. While the current study contributes to estimating the percentage of addiction among both males and females, this study estimates that online gaming addiction ranges from 10–20% among males and from 7.5–10% among females. These percentages were estimated based on the average daily gaming period shown in figure 2 and the analysis of the participants' responses to the phrase "Never ever stop gaming". This conclusion, although logical, is unprecedented in previous studies, and it represents an essential value for those working in many sectors of society, the most important of which are marketing, education (Haruna, et al., 2021), and human resource development. This conclusion can also be relied upon in the "Marketing" programs for useful educational online games (Haruna, et al., 2021); (Yasin & Abbas, 2021) or in the "De-marketing" against the useful.

The analysis' results of the research sample show that the percentage of those who are motivated by the factors of "free time" and "unemployment" is 24% among males and 28% among females. Furthermore, it was also found that the percentage of those who may leave online gaming due to finding a job is 8% for males and 9% for females. According to the well-known rules of scientific inference, if there is a statistically significant correlation between sex and these factors, any of the two factors may be the independent variable that affects the other (Sekaran & Bougie, 2016). Therefore, there is a possibility that online gaming is the independent variable that helps increase unemployment for gamers, or perhaps the opposite. This is consistent with the findings of a group of previous studies (e.g., (Barr & Copeland-Stewart, 2022), (Hu, et al., 2022), and (Chen, Mari, Grech, & Levitt, 2020) in the context of negative consequences. In addition, this study contributes to a better understanding of the relationship between the gender of online gamers and unemployment estimates.

5. Theoretical Contributions and Practical Implementations

The findings of this study have clear potential to contribute to both academic and practical fields. The study's findings can be used to develop new theories and models of online gaming behavior, as well as to inform the design and development of educational games, marketing campaigns, and treatment programs. Regarding its theoretical contributions, this study makes two major contributions to the field of online gaming research. First, it identifies the factors that drive online gamers to play or turn away from playing. This information can be used to develop theoretical models of online gaming behavior. Second, the study provides insights into gender differences in online gaming behavior. This information can be used to develop more nuanced theoretical models that can account for the different motivations and experiences of male and female gamers.

As for the practical implications of this study, its findings could present a set of practical implications for different organizations. Educational institutions can use these findings to develop educational games that help students learn new skills and concepts. Also, marketing firms can use the findings to create more effective marketing campaigns for online games. However, one more important contribution of this study is that therapeutic organizations can use their findings to develop treatment programs for gaming addiction. Furthermore, government agencies can use the findings to develop policies and regulations that protect children from the negative effects of online gaming.

6. Conclusions

This section sheds light on the most important contributions made by the current study in academic and applied fields. It includes three subsections: contributions and recommendations, reflection on the applied fields, and limitations and future work directions.

6.1 Contributions and Recommendations

This study makes two major contributions. The first is its focus on the factors that drive online gamers to play or to turn away, an area that most previous studies have not thoroughly examined. This contribution is significant in addressing the intense pressure from game companies to attract more gamers worldwide to maximize their revenues, often without considering the potential for player addiction or other negative consequences. The second contribution is enhanced understanding of pink marketing practices by exploring gender differences among gamers, whether they are inclined towards or away from online games.

The study recommends that its findings be considered in the marketing and development of educational games that benefit both gamers and society. These contributions can also be used to address the consequences of internet gaming disorders through demarketing strategies.

6.2 The Reflection on The Applied Fields

The findings of this study have implications for various organizations, including educational institutions, marketing firms, therapeutic organizations, and government agencies. For example, the findings can be used to develop educational and awareness games and identify mechanisms for treating the negative effects of gaming addiction, all while considering gender differences.

6.3 Limitations and Future Work Directions

The main limitations of this study are that it focused solely on gender differences among online gamers and examined only a specific set of factors that motivate them to play or turn away from online games. This study highlights several research gaps that could be addressed in future research. Proposed studies include examining the impacts of other demographic differences among online gamers, such as education level, income, and lifestyle, through cross-cultural and cross-national studies.

7. Declaration of Interest Statement

The author declares that no competing interest in this manuscript.

8. Declaration of Generative AI and AI-Assisted Technologies in The Writing Process

During the preparation of this work the author used “Bard Google” in brainstorming and generating ideas, and “Quill Bot” in proofreading. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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