INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH
2023, Vol. 4, No. 3, 897 – 916
http://dx.doi.org/10.11594/ijmaber.04.03.22

Research Article

Playing Games to Earn Money: The Conceptual Framework of Interaction between Gender, Learning Styles, Problematic Gaming Behavior and Success-Economic Gain Motivation of Playing Games

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Article history:
Submission March 2023
Revised March 2023
Accepted March 2023

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ABSTRACT

This study identified the constructs of problematic gaming behavior that significantly impact the success-economic gain motivation of gamers. Furthermore, this study explored the role of gender, number of games played, and learning styles in problematic gaming behavior and the success-economic gain motivation of gamers using an online survey (N = 136). This study identified escape from adverse moods and preoccupation as the significant determinants of success-economic gain motivation of gamers. Escape from bad moods and preoccupation mediates the relationship between gamers' gender, number of games played, and success-economic gain motivation. Regression analysis reveals that active-reflective and sequential-global learning styles moderate the relationship between escapism, preoccupation, and success-economic gain motivation of gamers. The results suggest that the combination of active-global learning style and reflective-sequential learning style has the highest impact on the success-economic gain motivation of gamers. The results led to two conceptual frameworks that show how gender, learning styles, problematic gaming behavior, and success-economic gain motivation all play a role in game play.

Keywords: *Asia, City Schools Division of San Fernando, descriptive-correlational design, Educational Management, La Union, Philippines, school heads, school performance, transformational leadership.*

Introduction

Over the last few decades, online games have gradually replaced more traditional video games as a way to have fun. Online games, unlike in the past, are now being used in a variety of fields, including education (Arango-López et al., 2019), mental health treatment (Dias et al., 2018), and e-commerce promotions (Yu & Huang, 2022). There has been a lot of progress in digital consoles, platforms, and distribution systems for games. Recent research in game development usually focuses on why people play

How to cite:
Torralba, E. M. (2023). Playing Games to Earn Money: The Conceptual Framework of Interaction between Gender, Learning Styles, Problematic Gaming Behavior and Success-Economic Gain Motivation of Playing Games. *International Journal of Multidisciplinary: Applied Business and Education Research*. *4*(3), 897 – 916. doi: 10.11594/ijmaber.04.03.22

games, how playing games affects their behavior, how gamification and game-based learning work, and how they can be used in different fields (Hamari & Keronen, 2017; Qin et al., 2021; Calvo-Morata et al., 2021; Haberlin & Atkin, 2022). While some studies explore the concept of earning money through gambling while playing games, most of this research focuses on the behavioral changes on the part of the players (Mills & Nower, 2019; Zendle, 2020; Macey, 2021). On the part of game developers, their top priority is to learn the reasons why people play games and apply the appropriate revenue streams for the benefit of investors. However, it doesn't seem to be very common in the literature to find studies that look into the possibility of games as a way to earn money.

Video games can be treated as any other sport. It entails wit, perseverance, dedication, and determination for a player to beat human or computer-generated (e.g., artificial intelligence) opponents and obstacles. Aside from the aesthetics and the mechanics of the game, players are attracted to the game due to the following: the layers of goals that need to be achieved; the sense of gratification for any achievement attained; the opportunity to earn monetary and non-monetary rewards; the opportunity to engage in healthy competition based on game-rules; and the fun of playing it. These reasons are coined based on the proposed framework of gamification that analyzes why people are hooked on games (Nah et al, 2013). Still, this question might linger in the minds of game developers, which is "What is the best motivator for gamers to continue playing my games?" Scholars and academicians have extensively studied these possible motivators that keep people from playing games. Based on the self-determination theory, Ryan, Rigby, and Przybylski (2006) proposed two important motivating factors for why people play video games (Ryan, 2006). First, in the form of autonomy where players use their intuition and strategy to win against their opponent. Second is the enhancement of players' competence by providing possibilities to develop new experiences or gaming skills, to be adequately tested, or to obtain positive feedback, which all contribute to increased perceived competence and, thus, intrinsic motivation. Perceived competence would be strengthened in gaming environments where gameplay interfaces and controls are intuitive and easily grasped, while tasks inside the game continue to present ideal challenges for constructive feedback. On the other hand, gaming landscapes, mechanics, and environments can foster an enduring, upbeat motivational attitude for gamers to continue playing their preferred video games (Granic et al., 2014). This motivational method, in turn, may be generally applicable to academic and professional settings. Additionally, certain types of games may nurture these healthy motivational patterns more than others. Aside from these insights, any ordinary person, gamers or non-gamers, would agree that money is the best reward and motivation that will make them continue playing the game.

Tool Theory of Money

Money is a highly efficient, potent, and straightforward motivator (Furnham, 2012). Money stimulates and more money motivates people to work even harder. It is normal for people to stay competitive, and when they are compensated for superior work, performance and expectations are enhanced for everyone. Additionally, while it is not always prudent or practical to promote individuals at work, money can be utilized to reward all workers in an equitable and extremely acceptable manner. In addition, because money is a universal reward, it's always a good thing for people to have it, no matter where they are or what they're doing. The power of money to motivate people to do things can be explained by the "Tool Theory of Money" (TTM). TTM posits that money is a tool for exchanging tangible or intangible resources. Money has no intrinsic value in itself, but the value of money rests on its ability to simplify trade and develop a universal framework for exchanging goods as compared to the traditional barter system. Following the Tool Theory, humans do not require money psychology at all, or only in a restricted sense: what people need is an understanding of the function of money and the human cognitive

framework that enables us to utilize it (Lea & Webley, 2006). The tool theory of money emphasizes that money is not meant to be used as an instant reward, but rather it is meant for delayed gratification. For instance, if you would like to earn money, you have to do something or produce something so that can trade it in exchange for money. As a result, customers will only purchase video games once they are bug-free and available in the marketplace. As a result of trade, people would be able to enjoy the gaming experience. This would be a form of leisure and entertainment (McCauley, 2020; Bender & Sung, 2021; Rega & Saxena, 2022).

Tool Theory of Money, Game Development, and Game Play

In in-game development, money serves as a tool of the trade that reflects the value and quality of games. The number of game characters, the quality of game graphics, and the number of functions that allow multiple people to play a single game determine the monetary value of games based on the perspectives of investors. This will then be used as the basis for how the game will be priced as a byproduct in the marketplace, as well as its game components such as loot boxes, weaponry, assets, game characters, and other game-related assets. As a byproduct of leisure and entertainment, people will use their money to buy games to experience the fun of playing them. In return, the money that the investors would get from selling video games in the marketplace will be used for employee salaries, the company's operational expenses, and income distribution for shareholders. Klimas (2017) has identified the 3 common game monetization models to ensure the flow of revenue streams for game development. First, games as a byproduct for leisure and entertainment can be sold to people through the one-time payment of the game; one-time payment from selling the basic features of the game and another payment for the premium or additional features of the game; and selling games through subscription or multiple-fix payment (monthly, quarterly, or annual) for playing the game. The second model is Freemium or providing the game as a free commodity to clients, and money will be earned through the payment of advertisers and selling game byproducts or in-app purchases. The third model is selling the game by providing licenses through royalty fees (Klimas, 2017). Games and other related assets can be sold for the redevelopment of new game versions; assets for movies, tv shows, or commercials; and assets for fashion's by-products (e.g., t-shirts, jeans, jackets, stickers for cars, advertisements). The monetization models of game development reinforce the sustainability of earning money from the point of view of the game developers. But what about video game players? Is TTM biased towards the monetary needs of game developers? Is it safe to assume that video game players are only interested in the joy and fun that the game brings?

Based on the premise of the Tool Theory of Money, consumers or video game players also perceive money in the same manner that game developers do. It is already established that people play games to enjoy them (Egli & Meyers, 1984; Greitemeyer et al., 2019; Holl et al., 2020). However, the view that people are only playing games for fun and enjoyment limits the perspective of using money as a tool to motivate people to play. Video game developers should adapt to a new perspective of letting their consumers earn money while playing the game. "Earning while playing" is not a new concept in the game industry, although previous studies have focused on the gambling aspect of it, such as betting on Counter-Strike or DOTA game matches (Holden & Ehrlich, 2017)). Aside from games or esports betting, players may sell their distinct game character skins, assets, or other in-game assets (Oh & Ryu, 2007). Another emerging money-generating framework for the benefit of video-game players is the integration of cryptocurrency and non-fungible tokens (NFT) in the blockchain-based game industry. Non-fungible tokens (NFTs) have already emerged as the new topic of conversation for the bitcoin market's scientific and industrial sectors. The phenomenon is driven by their functions and profitable trades, as evidenced by the $24.4 million sales of a bundle of 101 NFTs out of the "Bored Ape Yacht Club" inventory (Darayam, 2021). Unlike conventional cryptocurrencies such as Ethereum, Binance, Dodge, and Bitcoin, where all coins are identical, interchangeable, and "fungible," NFTs are

described as digital currencies which can't be traded for other digital products. As a result, NFTs are one-of-a-kind and "non-fungible" (Wang et al., 2021). This inherent property enables NFTs to prove the authenticity and ownership of a variety of different items in a variety of different fields, which explains its rapid adoption in play-to-earn games, digital gatherings, electronic memorabilia, and metaverses (Nadini et al., 2021; Wang et al., 2021). Indeed, in recent months, venture capitalists and gamers have flocked to the play-to-earn online games and metaverse, setting new records for virtual land sales and token values. As evidence, digital lands in the Decentraland metaverse and the Axie Infinity have been purchased for $2.4 million (Manfredi, 2022) and $2.5 million (Venkataramakrishnan & Steer, 2022). Additionally, their equivalent digital currencies, AXS and MANA have been incorporated into the top 40 cryptocurrencies by market capitalization as a result of their price gain (Ledesma, 2022).

Problematic Gaming Behavior

When played in excess, online games have been linked to negative outcomes, including functional impairment (Billieux et al., 2017). Internet gaming disorder was added as a "condition requiring more investigation" to the DSM-5 in 2013 (American Psychiatric Press, 2013), while the ICD-11 adds the gaming disorder diagnosis in a section devoted to disorders associated with substance abuse and behavioral addictions (WHO, https://icd.who.int/dev11/l-m/en. [Accessed 13 March 2022].). On the other hand, games can be used as a stress reliever (Pallavicini et al., 2021) and might have a positive impact on student's academic achievement (Torralba, 2020). Numerous labels have been used to refer to a problematic or pathological trend of video game usage in the current literature, including online game addiction (Han et al., 2012; Han et al., 2014), Internet gaming disorder (Petry & O'Brien 2013), problematic video game use (Mentzoni et al., 2011), problematic online gameplay (Kim et al., 2012), and internet game addiction (Zhang et al., 2015). However, in the context of play-to-earn games, it is important to consider the role of money as the primary motive for why people exhibit problematic gaming behavior. Players may treat video games as a source of income, which is similar to entrepreneurial activity. Based on the analysis of different researchers that is related to entrepreneurship and addiction, it was found that entrepreneurs may suffer some form of addiction in the pursuit of money (Keskin et al., 2015). Thus, problematic gaming behaviors can also be attributed to the fact that gamers are sacrificing some of their routine activities for the opportunity to play and earn money. As stated in the TTM, people may treat gameplay as a form of work where they exert effort to learn all of the game mechanics and strategies to win over their opponents. Players will build their game reputation, game statistics, game levels, and in-game assets. This way, the player can make money by giving social media tutorials, selling their game skin or level, or trading their assets in exchange for money or cryptocurrency.

Learning Styles

Research has examined potential mediators between problematic game use and negative outcomes, including demographic factors such as gender (Baloğlu et al., 2020), age (Laconi et al., 2015), and education status (Meduna et al., 2020). Furthermore, the literature has explored the relationships between problematic game behavior and individual factors including personality (Seong et al., 2019), self-efficacy (San-Martin et al., 2020), self-esteem (Cudo et al., 2020), and social factors such as loneliness (Tras, 2019; Ok, 2021) or broader societal functioning (Eijnden et al., 2018; Cheng et al., 2018). Additionally, some studies have addressed the association between family dysfunction and excessive gaming engagement (Throuvala et al., 2019; Stavropoulos et al., 2019). No study has examined the relationship between adolescents' learning styles, problematic gaming behavior, and the motivation of gamers to earn money from games. Learning the game mechanics to develop a gaming strategy follows the same learning principles that are being implemented in classrooms.

It has long been established by educational researchers and psychologists alike that playtime provides critical possibilities for learning (Yogman et al., 2018; Rapp et al., 2019). Students who engage in play and recreational activities in which natural behaviors appear to be shaped develop their psychomotor skills and critical thinking skills to react appropriately to different situations that might occur. For example, playing Counter-Strike trains the player's instincts to anticipate the game strategy and the location of their opponent. Thus, the players can develop and implement their strategy along with their teammates to beat their opponents. Throughout the play, the person is often deeply involved, confronted with complicated sequences of events, and challenged to react immediately, all within a fail-safe atmosphere receptive to exploration. This situation creates excellent conditions for learning to occur. Additionally, play is often social, which adds an important incentive component. As demonstrated by computational approaches to learning, these are optimal settings for increasing behavioral flexibility and adaptability in learning how to learn [57](Nguyen & Oudeyer, 2012). Likewise, play can be viewed as a natural consequence of development and can be used to evaluate performance in a much more stimulating and natural manner (Wortham et al., 2012).

It's worth noting that one of the critical success criteria for game development is a thorough understanding of the personality and learning styles of video game players. As with any other type of learner, video game players employ a variety of strategies for processing, engaging with, and dealing with knowledge. These approaches or inclinations are referred to as learning styles (Aljaberi, 2015). For instance, some people prefer to learn by doing, while others prefer reading (Felder & Soloman, 2022). Understanding a gamer's learning style enables game developers to enhance the learning process for game adaptation. For example, game developers can tailor resources to gamers who learn in a certain way, which increases their level of satisfaction and learning outcomes while cutting down on the amount of time it takes to learn. Kolb's model, Dunn and Dunn's VAK model, the Big Five model, the Honey and Mumford models, the Felder and Silverman models, the Gregorian model, the Carl index model, and Brick Meyers, Howard Gardner, and Chris Jackson's style are all examples of common learning styles (Khenissi et al., 2016; Deborah et al., 2014). Among the several learning styles, many researchers prefer Felder and Silverman's because it provides a more detailed description of the learner's "learning style," including four distinct dimensions of the learner's preferences and psychological components of learning. Felder and Silverman's styles of learning can be broken down into four groups: active/reflective, sequential/global, visual/verbal, and sensing/intuitive.

Active learners retain and comprehend information best when they are actively engaged in it, discussing, applying, or articulating it to others. Reflective students prefer to contemplate it over quietly first. Active learners are more likely to enjoy group work than reflective students, who prefer to work alone. Sensory learners prefer to memorize facts; intuitive learners frequently prefer to explore possibilities and relationships. Sensory learners frequently prefer to solve problems using well-established methods and despise difficulties and surprises; intuitive learners value innovation and despise repetition. Sensors are more likely to be resentful of being tested on material not formally discussed in class than intuitors. Visual learners retain information best when it is presented in the form of images, illustrations, flow diagrams, time frames, movies, and workshops. Verbal learners benefit more from verbal explanations than written or spoken ones. Everyone gains a greater understanding when information is presented visually and verbally. Sequential learners often acquire knowledge in linear phases, with each step logically following the previous one. Global learners frequently make significant leaps in their learning, absorbing stuff almost randomly and failing to perceive connections until suddenly grasping it. Global learners may be able to solve complicated matters rapidly or put things together in creative ways once they comprehend the big picture, but they may have difficulties expressing how they did it.

Methods

The sample was obtained from the freshmen Computer Science and Information Technology students of the Institute of Information and Computing Sciences, University of Santo Tomas. A purposive sampling procedure was adopted. The selection of the participants or respondents was based on their availability to answer the research instruments that were used in this study. All participants were enrolled during the school year 2019-2020. The study utilized a 4-part research instrument. The first part was a researcher-made instrument that focused on the socio-demographic profile of the respondents, such as gender, course, and the video/online games that they were playing. Frequency counts and simple percentages were used to describe the socio-demographic profiles of the respondents, such as age and gender. Respondents were asked to give a Yes (1) or No(0) answer if they were playing the following games: Warcraft III, League of Legends, Heroes of Newerth, DOTA 2, Dragon Nest, Cabal Online, Continent of 9th Seal, Counter-Strike, Mercenary Online, Point Blank, Cross-Fire, Special Force, Left 4 Dead. The sum was then computed by the researcher. The second instrument was adapted from the 18-item Video Game Dependency Scale (Rehbein et al., 2015); the third instrument was adapted from the Index of Learning Style Questionnaire (Litzinger et al., 2007); and the fourth instrument was adapted from the Success and Economic Profit subscale of the Online Game Addiction scale (Basol & Kaya, 2018). The respondents were advised to honestly respond by checking the choices of the items. The computation of the weighted mean was employed for the 18-item Video Game Dependency Scale, the 8-item Success Motivation subscale, and the 4-item Economic-Gain Motivation subscale of the Online Game Addiction Scale to be used for the regression analysis. The combination of the Success Motivation subscale and the Economic-Gain Motivation subscale aims to explore the perceptions of players to learn if achievements and monetary benefits motivate them during gameplay. For the Index of Learning Style, the responses were tallied for the subscales of Active/Reflective, Sensing/Intuitive, Visual/Verbal, and Sequential/Global.

The ILS questionnaire presents a collection of items that can be used to determine a learner's learning style. Because 11 questions are presented with each of the 4 dimensions, the resulting index of choice for each dimension is represented as an odd integer ranging between [-11, +11]. Each question has two alternative solutions, one with a value of +1 and the other with a value of -1. For example, when a learner answers a question with a reflective preference, their score is increased by one, and when they answer with an active preference, their score is reduced by one (i.e., -1 is added). The outcomes are interpreted as follows for each dimension: -11 to 0 means a preference for Active, Sensing, Visual, and Sequential represented by 1. On the other hand, values from 1 to 11 mean a preference for Reflective, Intuitive, Verbal, and Global is represented by 2. The learning style with the most points on each subscale was used to describe the person's four main learning styles.

For statistical analysis, SPSS 22 was used in this study. Skewness and kurtosis were used to check for normality at the item level and found no problems. The outliers were removed and they were identified using the Mahalanobis, Cook's, and leverage values in the regression analysis of SPSS. Cronbach's alpha was used to assess the reliability of the responses. The impact of the independent variables, gender, the number of videos/online games played by respondents, and the determinants of the Video Game Dependency Scale (*Preoccupation, Withdrawal, Tolerance, Reduce/Stop, Continue Despite Problems, Give up other activities, Escape Adverse Moods, Deceive/Cover-up, and Risk/Loss*) on the three dependent variables, Success-economic gain motivation, were determined using regression analysis. After figuring out which variables were important, model 3 of Andrew Hayes' Processing (Hayes, 2022) was used to look into how the respondents' learning styles might be moderating the results. Model 4 of Haye's Processing was also used to look at how gender, the number of videos/online

games played by respondents, and the dependent variable were all linked together.

Results and Discussion

Descriptive Results

The original number of participants was 148, composed of 110 male and 38 female students. The *Mahalanobis, Cook's, and Leverage Values* functions of SPSS were used to identify and remove the outliers, which left a total of 136 participants, composed of 100 male and 36 female students. Out of the 136 participants, 39.7% played Warcraft III, 49.3% played League of Legends, 42.6% played DOTA 2, 30.9% played Dragon Nest, and 10.3% played Cabal Online. 67.6% played Counter-Strike, 27.2% played Cross-Fire, and 23.5% played Special Force. 19.1% of players played Point Blank, 11.8% played Heroes of Newerth, 3.7% played Mercenary Online, and 1.5% played Continent of the 9th Seal. Figure I shows the frequency distribution of the most common games that are being played by the respondents.

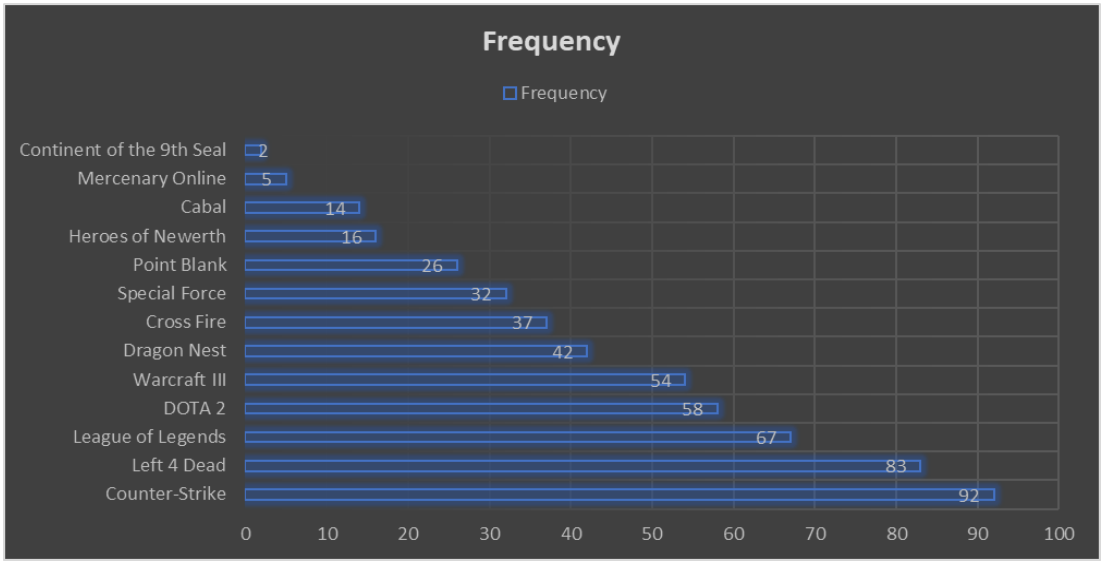

Figure I. Frequency distribution of the most common games that are being played by the respondents

Table I shows the descriptive statistics of the 9 subscales of the Video Game Dependency Scale
Table I: Subscales of Video Game Dependency Scale

Subscales	N	Minimum	Maximum	Mean	Std. Deviation
Preoccupation	136	1.00	4.00	2.0184	0.862
Withdrawal	136	1.00	4.00	1.9485	0.850
Tolerance	136	1.00	4.00	2.2169	0.910
Reduce/Stop	136	1.00	4.00	1.9265	0.815
Continue Despite Problems	136	1.00	4.00	1.8199	0.783
Give-up Other Activities	136	1.00	4.00	1.8346	0.741
Escape Adverse Moods	136	1.00	4.00	2.6140	0964
Deceive/Cover-Up	136	1.00	4.00	1.7757	0.788
Risk/Lose	136	1.00	4.00	1.6765	0.783

Table II: Success-Economic Gain Motivation

	N	Minimum	Maximum	Mean	Std. Deviation
Success-Economic Gain motivation	136	1.00	4.00	2.6991	0.701

Table III shows the descriptive statistics of the 4 dimensions of Felder and Soloman's Index of Learning Style, which is Active/Reflective, Sensing/Intuitive, Visual/Verbal, and Sequential/Global.

Table III: Felder and Soloman's Index of Learning Style

	Active/Reflective	Sensing/Intuitive	Visual/Verbal	Sequence/Global
N	136	136	136	136
Mean	3.507	2.404	2.103	2.610
Std. Deviation	0.6085	0.9139	0.8007	0.7997

Regression Results

Stepwise regression was employed to find the best model between the 9 subscales of the Video Game Dependency Scale as the independent variables and the *Success Motivation* and the *Economic Gain Motivation* dependent variables. After implementing the regression analysis, three regression models were produced to describe the relationships between the independent and dependent variables. The significant subscales of the *Video Game Dependency Scale,* which are "escape from *adverse moods"*, "*preoccupation*", and *"risk/loss"* of the three regression models, have a Cronbach alpha value of 0.803, 0.836, and 0.757, respectively, indicating that all responses are valid and reliable. To ensure that there is no collinearity between the independent variables of the model, Pearson r correlation was used. It was found that collinearity existed between the variable's "preoccupation" and *"risk/loss."* Thus, the study adopted the second regression model (*R = 0.764, R-square = 0.584),* which shows that *"Escape Adverse Moods" (β = 0.377, P < 0.000)* and *"Preoccupation" (β = 0.274, P < 0.000)* positively predict the *Success and Economic-Gain Motivation* of gamers, as presented in Table IV. According to this result, the reason respondents play games is that they are obsessed with the game and want to get away from their problems by playing games instead of doing other things

Table IV: Regression Results of Significant Subscales of Video Game Dependency with respect to DV

Model	β	Standard Error	t	Sig
Constant	1.161	0.119	9.741	0.000
Escape Adverse Moods	0.377	0.050	7.551	0.000
Preoccupation	0.274	0.056	4.902	0.000
Dependent Variable: Success and Economic-Gain Motivation of playing games				
R = 0.764, R-square = 0.584				

The Mediating Roles of Escape Adverse Moods and Preoccupation

A separate stepwise regression was performed using *"gender"* and *" actively played games "* as the independent variables and the dependent variable "*Success and Economic-Gain Motivation" of playing games*. After the regression analysis, it was found that the *"number of games that the respondents were actively playing" (β = 0.083, P < 0.000) significantly* predicted the "*Success and Economic-Gain Motivation"* of the respondents, as shown in Table V. This result implies that the more games that the respondents play, the greater their chances of success and economic gain.

Table V: Regression Results of Actively played games with respect to DV

Model	β	Standard Error	t	Sig
Constant	2.376	0.087	27.393	0.000
Actively played games	0.083	0.017	4.849	0.000
Dependent Variable: Success and Economic-Gain Motivation of playing games				
R = 0.386, R-square = 0.149				

This study employed the use of model 4 of Andrew Haye's Process to explore the mediating roles of "*Escape from Adverse Moods*" and "*Preoccupation*" between *"Actively played games"* and the dependent variable. Results show that the "number of games that the respondents were actively playing" significantly predicts "*Escape from Adverse Moods" (see Table VI)* with a coefficient of 0.1125 ($p < 0.000$) as well as "Preoccupation" *(see Table VII)* with a coefficient of 0.0814 ($p < 0.0005$). The direct effect of *"Actively played games"* on the dependent variable "Success and Economic-Gain Motivation" is 0.0218 ($p < 0.10$). As shown in Table VIII, "Escape *from Adverse Moods*" and "*Preoccupation*" have a direct effect on the dependent variable with a coefficient of 0.3545 ($p < 0.000$) and 0.2629 ($p < 0.000$) respectively. This implies that the more games that the respondents play, the more opportunities there are for the gamers to escape from their adverse moods and the more likely they are to be distracted by games instead of doing their work at home or school.

Table VI: Regression Results of Actively played games with respect to DV

Model	β	Standard Error	t	Sig
Constant	2.1772	0.1196	18.2016	0.000
Actively played games	0.1125	0.0236	4.7598	0.000
Outcome Variable: Escape Adverse Moods				
R = 0.3803, R-square = 0.1446				

Table VII: Regression Results of Actively played games with respect to DV

Model	β	Standard Error	t	Sig
Constant	1.7022	0.1100	15.4811	0.000
Actively played games	0.0814	0.0217	3.7488	0.0003
Outcome Variable: Preoccupation				
R = 0.3081, R-square = 0.0949				

Table VIII: Regression Results of IV's with respect to DV

Model	β	Standard Error	t	Sig
Constant	1.1572	0.1184	9.7698	0.0000
Actively played games	0.0218	0.0130	1.6772	0.0959
Escape from Adverse Moods	0.3545	0.0513	6.9041	0.0000
Preoccupation	0.2629	0.0559	4.7062	0.0000
Outcome Variable: Success and Economic-Gain Motivation of playing games				
R = 0.6673, R-square = 0.4453				

The indirect effect of "*Escape from Adverse Moods*" (0.0399) and "*Preoccupation*" (0.0214) on the "*Success-Economic Gain"* motivation proves to be significant as the bootstrap confidence interval does not include zero as shown in Table IX. Thus, the roles of "*Escape from Adverse Moods*" (0.0399) and "*Preoccupation*" between the independent and dependent variables were established as shown in the conceptual model of Figure 2. It is noteworthy to

mention that the direct effect of the "Actively played games" on the dependent variable dropped from 0.083 (see Table 5) to 0.0218 (see Table 8) due to the mediating effects of the variables "*Escape from Adverse Moods*" and "*Preoccupation*".

Table IX: Mediating Effect of "Escaped from Adverse Moods" and "Preoccupation"

	Effect	BootSE	BootLLCI	BootULCI
Total	0.0613	0.0141	0.0351	0.0904
Escape from Adverse Moods	0.0399	0.0104	0.0216	0.0623
Preoccupation	0.0214	0.0066	0.0095	0.0356
Indirect Effect of the independent variable *(number of games that the respondents were actively playing)* to the dependent variable *(Success and Economic-Gain Motivation of playing games)*				

Additionally, this study examined the effect of "Gender" on the independent variables "Escape from Adverse Moods," "Preoccupation," and " Actively played games" on the dependent variable "Success and Economic Gain Motivation." According to the findings, "Gender" does not have a direct effect on the dependent variable. Table X demonstrates that "Gender" has a statistically significant effect on "Escape from Adverse Moods" (β=-0.7217, P 0.0005), "Preoccupation" (β=-0.5161, P 0.005), and "Actively played games " (β=-2.9378, P 0.0001). The results suggest that male respondents are more likely to flee their negative moods and become preoccupied while playing the game than female respondents.

Table X: Effect of Gender Roles

	Effect	Sig	R	R-square
GENDER → Escape from Adverse Moods	-0.7217	0.0000	0.3315	0.1099
GENDER → Preoccupation	-0.5161	0.0018	0.2653	0.0704
GENDER → Actively played games	-2.9378	0.0000	0.3991	0.1593

The Moderating Role of Learning Styles Between *Escape from Adverse Moods and Success and Economic-Gain Motivation*

Model 3 of Andrew Haye's Process was employed to explore the moderating roles of the different dimensions of respondents' learning styles. Based on the results, it was found that the interaction between "*Escape from Adverse Moods*", *"Active-Reflective*" and the "*Sequential-Global*" dimension of learning style is statistically significant *(β = -0.4120, P < 0.05)* as shown in Table XI.

Table XI: Moderating Effect of Learning Styles

Model	β	Standard Error	t	Sig
Constant	2.7062	0.0423	63.9523	0.0000
Escape from Adverse Moods	0.5068	0.0452	11.2121	0.0000
Active/Reflective	-0.0708	0.0901	-0.7859	0.4334
Sequence/Global	-0.0991	0.0916	-1.0812	0.2817
Interaction (Escape from Adverse Moods * Active/Reflective * Sequence/Global)	-0.4120	0.1852	-2.2248	0.0278
Outcome Variable: Success and Economic-Gain Motivation of playing games				
R = 0.7366, R-square = 0.5426				

Figure II shows the different slope tests of the regression line between "*Escape from Adverse Moods*" (-1 sd, mean, and +1 sd) and the dependent variable "*Success and Economic-Gain Motivation"* due to the moderation effect of the *"Active-Reflective"* and "*Sequential-Global*" dimensions of learning style. Table XII shows how two dimensions of learning style, "Active-Reflective" and "Sequential-Global," moderate the effect of the independent variable "Escape from Adverse Moods" on the dependent variable "*Success and Economic-Gain Motivation".*

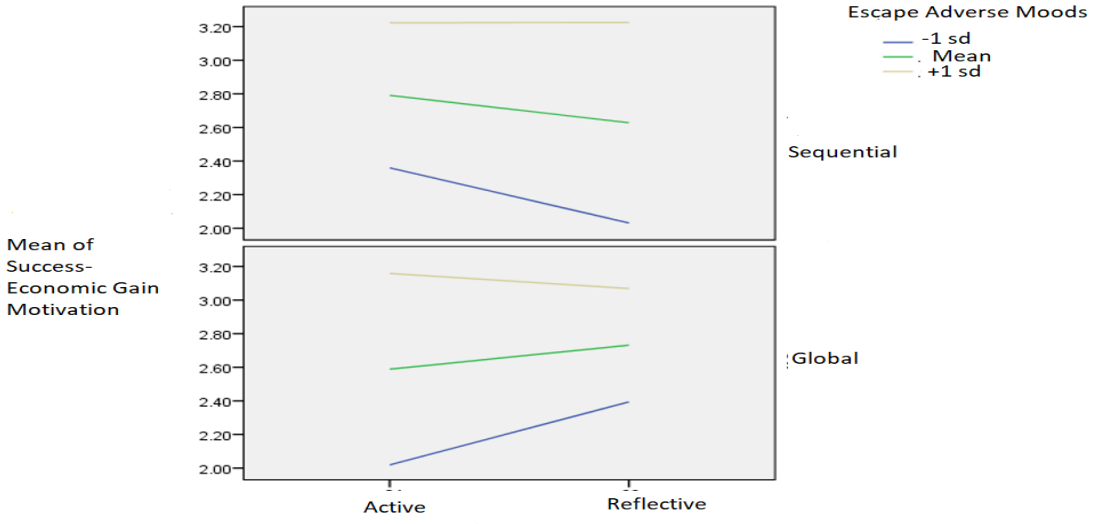

Figure II: Slope tests of the regression line between "Escape from Adverse Moods" (-1 sd, mean, and +1 sd) and the dependent variable "Success and Economic-Gain Motivation"

Table XII: Effect of Learning Styles between "Escape from Adverse Moods" and DV

Learning Style		Conditional effects of the focal predictor at values of the moderators	Sig	Interpretation
Active	Sequential	0.4478	0.0000	"Escape from Adverse Moods" strongly predicts the "*Success and Economic-Gain Motivation"*
Active	Global	0.5909	0.0000	"Escape from Adverse Moods" strongly predicts the "*Success and Economic-Gain Motivation"*
Reflective	Sequential	0.6189	0.0000	"Escape from Adverse Moods" strongly predicts the "*Success and Economic-Gain Motivation"*
Reflective	Global	0.3500	0.0026	"Escape from Adverse Moods" strongly predicts the "*Success and Economic-Gain Motivation"*

The Moderating Role of Learning Styles Between *Preoccupation and Success and Economic-Gain Motivation*

The result also reveals that the interaction of *"Preoccupation",* "Active-Reflective", and "*Sequential-Global*" dimension of learning style is statistically significant *(β = -0.7151, P < 0.005)* as shown in Table XIII.

Table XIII: Effect of Learning Styles between "Preoccupation" and DV

Model	β	Standard Error	t	Sig
Constant	5.1562	1.0392	4.9618	0.0000
Preoccupation	-0.7141	0.4729	-1.51	0.1335
Active/Reflective	-2.5755	0.7054	-3.6512	0.0004
Sequence/Global	-2.5697	0.7159	-3.5897	0.0005
Interaction (Escape from Adverse Moods * Active/Reflective * Sequence/Global)	-0.7151	0.2283	-3.1327	0.0021
Outcome Variable: Success and Economic-Gain Motivation of playing games				
R = 0.6912, R-square = 0.4777				

Figure III shows the different slope tests of the regression line between "*Preoccupation*" (-1 sd, mean, and +1 sd) and the dependent variable "*Success and Economic-Gain Motivation"* due to the moderation effect of the *"Active-Reflective"* and "*Sequential-Global*" dimensions of learning style. Table XIV shows how two dimensions of learning style, "Active-Reflective" and "Sequential-Global," moderate the effect of the independent variable "Preoccupation" on the dependent variable "*Success and Economic-Gain Motivation".*

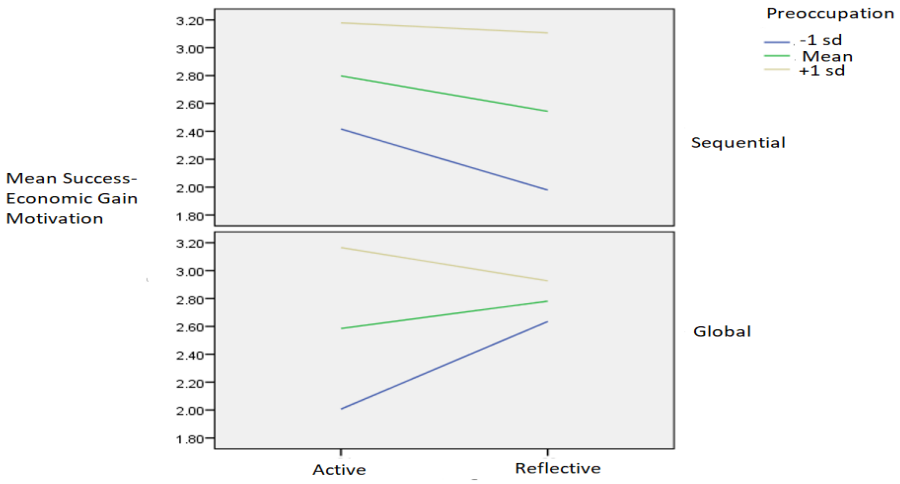

Figure III: Slope tests of the regression line between "Preoccupation" (-1 sd, mean, and +1 sd) and the dependent variable "Success and Economic-Gain Motivation"

Table XIV: Moderating Effect of "Active-Reflective" and "Sequential-Global" Learning Styles

Learning Style		Conditional effects of the focal predictor at values of the moderators	Sig	Interpretation
Active	Sequential	0.4425	0.000	"Preoccupation" strongly predicts the "*Success and Economic-Gain Motivation"*
Active	Global	0.6724	0.000	"Preoccupation" strongly predicts the "*Success and Economic-Gain Motivation"*
Reflective	Sequential	0.6541	0.000	"Preoccupation" strongly predicts the "*Success and Economic-Gain Motivation"*

Discussion

The phenomenon of earning money through playing games is gaining popularity among gaming aficionados. The results of this study validate the growing trend that playing games is being propelled not only for entertainment but also for the monetary benefits that come with it. Furthermore, the identified problematic behavior of gamers can be traced to their motivation to earn something in return for their effort of studying the game mechanics and strategies to win over their opponents.

The Conceptual Framework of the Relationship of Gender, Games, Escapism, Preoccupation, and Success-Gain Motivation

The results of this study paint the role of gender and the number of games in the problematic gaming behavior and success-economic gain motivation of gamers. Figure 4 illustrates the conceptual links between the variables "Success and Economic Gain Motivation", "Gender," "Escape from Adverse Moods," "Preoccupation," and "Number of games that respondents were actively playing."

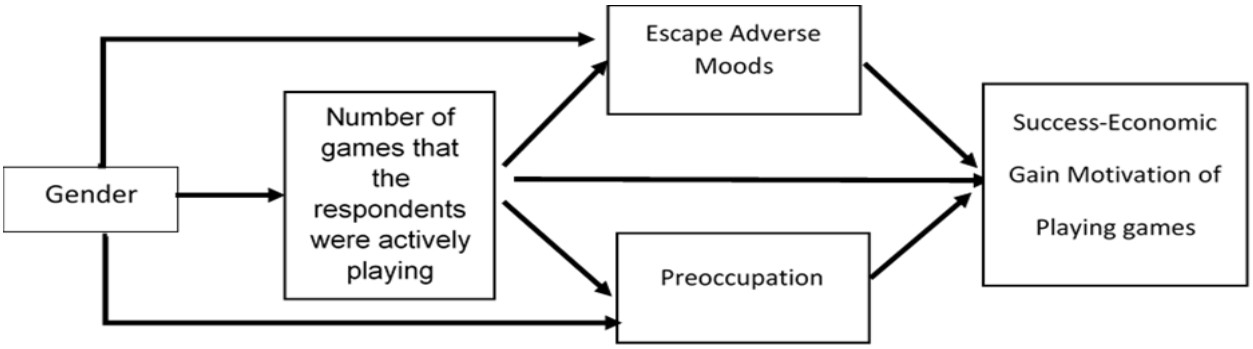

Figure IV: Conceptual framework on the role of gender and the number of games in the problematic gaming behavior and success-economic gain motivation of gamers.

The conceptual framework of Figure IV describes the role of gender when it comes to the number of games that are actively being played during the study. The results validate the study by Statista (2022) that states that online games are still dominated by male players in the Philippines (Statista Research Department, 2022). The top five most popular games among respondents are: Counter-Strike, Left 4 Dead (first-person shooter games (FPS), League of Legends (multiplayer online battle arena (MOBA), Warcraft (real-time strategy (RTS), massively multiplayer online role-playing games (MMORPG), and DOTA 2 (real-time strategy (RTS), multiplayer online battle arena (MOBA). These games can be considered traditional fighting and shooting games that are popular among male gamers (Ruvalcaba et al., 2018). Female gamers in the Philippines prefer puzzle games, while tactics and RTS games are the least popular because they are more likely to engage in non-time-consuming games (Gismundo, 2020). RTS games like Warcraft, Dota 2, and League of Legends take a long time to finish, but most puzzle games can be completed in a short amount of time or paused and restarted at any time the player wants. Women appear to prefer to be spectators and fans rather than participate in actual game competitions, particularly in FPS, MMORPG, RTS, and MOBA, which are common themes in esports. In esports, as a male-dominated industry, reports of aggression (Lopez-Fernandez et al., 2019, #), harassment (Darvin, 2021), stereotyping (Madden et al.,, 2021), and sexism (Ruvalcaba et al., 2018) by male gamers alienate female gamers from joining gaming competitions. However, some female gamers are starting to participate in online gaming competitions through hosting and social media streaming of games. The niche of game streaming gives female gamers a chance to make money by getting more popular on social networks and using advertisements and subscription monetization strategies to make money.

Male gamers are playing games to escape their adverse moods. Many people like the experience of leaving the current world and

immersing themselves in a fictional one through activities such as playing online games. FPS, MOBA, MMORPG, and RTS games enable players to escape reality and immerse themselves in the world of gaming (Bass, 2015). Gamers can use it as a way to deal with negative emotions or thoughts like fear of rejection, anxiety, and failure as long as they play the game. In the same manner, male gamers are also prone to be preoccupied with the opportunity to play, which may result in the neglect of performing their daily tasks at home. However, escapism and preoccupation during gameplay do not always connote problems, as one should look into context at the other motivations of players in playing games. As figure 4 shows, escapism and preoccupation predict the success and economic gain motivation of players during gameplay, while gender does not have a direct impact on the dependent variable. Videogames, just like any other sport, provide challenges and obstacles to induce healthy competition. When monetary rewards are added to the equation, it makes the game more competitive and intense. Thus, players are expected to devote their time to studying the game mechanics and crafting their strategies to win over their opponents. The more victories they have, the more popular and influential they will become. This provides more opportunities for gamers to reap monetary rewards from their game expertise.

Furthermore, the more games a gamer plays, the more likely it is that they will earn money while playing. As figure 4 implies, escapism and preoccupation mediate the impact of the number of games played on the success-economic gain motivation of playing games. The list of games that most of the respondents are playing includes game functionalities that can monetize game assets. In the case of Counter-Strike, which garnered the most frequency, it has highly precise mechanics and rules as an e-sports game that provides intense competition between two opposing teams. Players earn money by planting or defusing bombs, eliminating other avatars, and surviving around. The monetary economy is governed by a complicated set of rules that include how well people do statistically. In the case of League of Legends, top players can earn points through matchmaking rating (MMR) boosting. MMR is a practice in League of Legends in which a player (the booster) connects to some other person's account (the boostee) to play a rated game. Gamers may earn a solid living by promoting their accounts to the next category. On the other hand, MMR boosting is discouraged because it can have a variety of detrimental impacts on the game and other players, as well as jeopardize account security. Another way to profit from League of Legends is to sell gaming accounts. While League of Legends is indeed a free-to-play game, some players are willing to take part in purchasing accounts. When an account has been invested with value, it will sell for a higher price. For instance, if a player has rare or premium skins and higher player statistics and ranks, experienced gamers will be more interested in your account and be more committed to putting more money into it. These competitive gamers can begin playing ranked without having to grind for the whole week to complete higher levels.

There are other ways to make money while playing video games. Gamers and social streamers generate material for social media exposure. Gamers and viewers promote, disseminate, endorse, and spread the game content or tutorials. In return, advertisers and donors provide tangible support to content creators, encouraging them to produce more game-related content. Additionally, competitions and game betting are prevalent in "player versus player" games such as FPS, MOBA, RTS, and MMORPG games. Naturally, as the game becomes more popular, the reward pools grow bigger. If the gamer is competent enough to participate in an esports team, she or he may be able to make a living wage via prizes and sponsorships. Competitive gamers also use live streams to supplement their revenue.

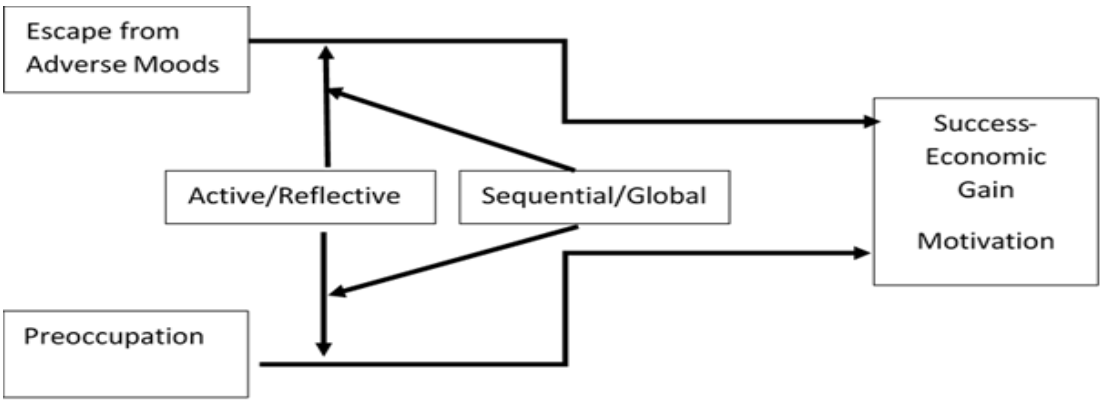

Figure V: Conceptual framework on the moderating effect of learning styles between escapism, preoccupation and success-economic gain motivation

The moderating influence of active-reflective and sequential-global learning styles on the independent and dependent variables is illustrated in Figure 3. The combination of reflective-sequential and active-global perspectives enhances the beneficial effects of escapism and preoccupation on the gamers' success-economic gain motivation during gameplay. Reflective learners frequently ponder and evaluate concepts before gaining a complete understanding of the subject. When it comes to game development, Hsiao (2009) observes that games that offer a large number of possible actions hinder players' ability to reflect on and think critically about their future moves (Hsiao, 2009). As a result, under time constraints, the player is compelled to make snap decisions, even if they contradict past acts and achievements in the game. Regarding game mechanics and monetary systems, game creators should consider restricting gamers' decision-making capabilities by limiting the number of available options. The narrative for these game choices should be clear and tied to the player's previous decisions. The connection of game choices can be managed or altered by game-implemented reinforcement and genetic machine learning algorithms. Additionally, game developers may investigate the integration of cryptocurrency and non-fungible tokens into their games' reward pool systems. According to the tool theory of money, gamers will become more circumspect and calculated in their gaming judgments and methods if they are aware that money is being used as a kind of reward or punishment through cryptocurrency or NFT. On the other hand, active learners are more likely to experiment and collaborate with team members in order to learn. Active learners are more likely to engage in team-clan recruiting, messaging systems, and player collaboration in games such as FPS, MOBA, RTS, and MMORPGs. Additionally, because "active learners" benefit from practice, game creators should create a "free-to-play" framework for this demographic of players.

Sequential learners prefer to learn in a structured and sequential fashion. A sequential learner observes a phenomenon via the lens of interrelated, hierarchical, and procedural concepts (Huang, 2015). Thus, each thought sequence is critical for comprehending the significance of little patterns. For sequential learners, consistency in game mechanics and structure is critical. By carefully engineering the levels (easiest-difficult), armament, game assets, obstacles, and computer-generated opponents, sequential learners will be able to adapt to the game. The reward pool system of the game should follow a structural policy that compels the gamers to perform the interconnected mission or daily quest while distributing the game rewards based on the statistical performance of the players. To avoid cheating and player confusion, the steps for winning and claiming game rewards should be clear and concise. However, the element of mystery and unpredictability should remain in the game since it forces reflective and active learners to pause and rethink their game strategy. Global learners, on the other hand, frequently make enormous leaps in their learning and like to think

holistically. Global learners, according to Huang (2015), place a higher emphasis on perceived ease of use. Global learners are easily distracted, particularly when dealing with a large number of components, buttons, icons, and procedures involved in completing a given function. When it comes to making games, simple interfaces and good user experiences will help players learn the game's mechanics. Excessive material or information will overwhelm and frustrate global learners, discouraging them from further exploring the game. Other than games with a lot of content, assets, characters, and material, the user interface for all games (mobile, console, and web) should be straightforward to comprehend and not require gamers to navigate through pages of documents before they can even begin playing. Additionally, any tutorials explaining how to play the game should be integrated into the user interface and should be brief and straightforward. Whenever designing and building online or mobile games, all icons and buttons should point towards the next sequence in the gameplay and must not be utilized as click bait or misleading links to direct visitors to other websites where game developers can generate advertising income. While this strategy may pay off over the short term, it would erode consumer trust and make gamers less inclined to choose the game.

Conclusion

The study affirms the mediating role of escapism and preoccupation in the number of games played and the success-economic gain motivation of gamers. Escapism and preoccupation may be viewed in the context of playing games to earn money. Just like any business venture or entrepreneurial endeavor, people will play games if they know that there will be monetary rewards aside from the joy and entertainment that games provide. Furthermore, the moderating role of learning styles in preoccupation, escapism, and the success-economic gain motivation of gamers provides an important insight for game developers. The findings of this study emphasize the important characteristics of active, reflective, sequential, and global learners in developing the game mechanics and reward pool system of games. Even though each learning style has its own unique features, these features don't conflict with each other and can be used together to make games that are all-encompassing and fun to play.

Games should provide a means for players to be independent and reflect on the role that they have to play during gameplay as well as the available choices to finish a game level or quest. The functionalities of social media platforms such as instant messaging, team collaboration, and trading of game assets will promote engagement between the stakeholders of the game. The narrative and the mechanics of the games should be interconnected and follow a linear sequence to help the gamers assimilate the goals of the game. Furthermore, the interface of games should be simple and should not contain unnecessary game assets or narratives that will confuse the players. These ideas can be used with the well-known principles of gamification, user interface, and user experience research when you make games for people to play and enjoy.

The two conceptual frameworks developed in this study should be utilized and tested in experimental research on lead generation, user interface, and user experience for game development. Game creators should consider the various learning styles of players while designing the game's mechanics and reward pool system. Additionally, this study may add to the body of knowledge regarding problematic gaming behavior.

References

A. Furnham, "Money as a motivator," in *The Talented Manager*, Palgrave Macmillan, London, 2012.

A. Rapp, F. Hopfgartner, J. Hamari, C. Linehan and F. Cena, "Strengthening gamification studies: Current trends and future opportunities of gamification research," *International Journal of Human-Computer Studies,* vol. 127, pp. 1-6, 2019.

American Psychiatric Association, Diagnostic and statistical manual of mental disorders, 5 ed., Washington, DC: American Psychiatric Press, 2013.

B. McCauley, T. H. T. Nguyen, M. McDonald and S. Wearing, "Digital gaming culture in Vietnam: an exploratory

study," *Leisure Studies,* vol. 39, no. 3, pp. 372-386, 2020.

C. Cheng, M. Cheung and H.-y. Wang, "Multinational comparison of internet gaming disorder and psychosocial problems versus well-being: Meta-analysis of 20 countries," *Computers in Human Behavior,* vol. 88, pp. 153-167, 2018.

C. Ok, "Extraversion, loneliness, and problematic game use: A longitudinal study," *Personality and Individual Differences,* vol. 168, 2021

Calvo-Morata, C. Alonso-Fernández, M. Freire, I. Martínez-Ortiz and B. Fernández-Manjón, "Creating awareness on bullying and cyberbullying among young people: Validating the effectiveness and design of the serious game Conectado," *Telematics and Informatics,* vol. 60, 2021

Cudo, M. Szewczyk, A. Błachnio, A. Przepiórka and A. Jarząbek-Cudo, "The Role of Depression and Self-Esteem in Facebook Intrusion and Gaming Disorder among Young Adult Gamers," *Psychiatric Quarterly,* vol. 91, pp. 65-76, 2020.

D. H. Han, I. K. Lyoo and P. F. Renshaw, "Differential regional gray matter volumes in patients with on-line game addiction and professional gamers," *Journal of psychiatric research,* vol. 46, no. 4, pp. 507-515, 2012.

D. H. Han, o. S. Lee, X. Shi and P. F. Renshaw, "Proton magnetic resonance spectroscopy (MRS) in on-line game addiction," *Journal of Psychiatric Research,* vol. 58, pp. 63-68, 2014.

D. Madden, Y. Liu, H. Yu, M. F. Sonbudak, G. M. Troiano and C. Harteveld, ""Why Are You Playing Games? You Are a Girl!": Exploring Gender Biases in Esports," *CHI '21: Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems,* pp. 1-15, 2021.

D. Zendle, "Beyond loot boxes: A variety of gambling-like practices in video games are linked to both problem gambling and disordered gaming," *PeerJ,* vol. 8, 2020.

E. A. Egli and L. S. Meyers, "The role of video game playing in adolescent life: Is there reason to be concerned?," *Bulletin of the psychonomic society,* vol. 22, no. 4, pp. 3019-312, 1984.

E. Holl, S. Bernard and A. Melzer, "Moral decision-making in video games: A focus group study on player perceptions," *Human Behavior and Emerging Technologies,* vol. 2, no. 3, pp. 278-287, 2020.

E. M. Torralba, "The Collective Influence of Online Games and Gaming Behavior to Academic Performance in a Flipped Database Management Course," *Conference: ICMET '20: 2020 the 2nd International Conference on Modern Educational Technology,* pp. 40-44, 2020.

F. F.-H. Nah, V. R. Telaprolu and S. Rallapalli, "Gamification of Education Using Computer Games," in *International Conference on Human Interface and the Management of Information*, Springer, Berlin, Heidelberg, 2013, pp. 99-107.

F. Hayes, "PROCESS: A Versatile Computational Tool for Observed Variable Mediation, Moderation, and Conditional Process Modeling," 2012. [Online]. Available: http://www.afhayes.com/public/process2012.pdf. [Accessed 17 March 2022].

F. Pallavicini, A. Pepe and F. Mantovani, "Commercial Off-The-Shelf Video Games for Reducing Stress and Anxiety: Systematic Review," *JMIR mental health,* vol. 8, no. 8, 2021.

F. Rega and D. Saxena, "Free-Roam Virtual Reality: A New Avenue for Gaming," in *Advances in Augmented Reality and Virtual Reality. Studies in Computational Intelligence*, 998, 2022, pp. 29-34.

F. Rehbein, S. Kliem, D. Baier, T. Mößle and N. M. Petry, "Prevalence of internet gaming disorder in German adolescents: diagnostic contribution of the nine DSM-5 criteria in a state-wide representative sample," *Addiction,* vol. 110, no. 5, pp. 842-851, 2015.

G. Baptista and T. Oliveira, "Gamification and serious games: A literature meta-analysis and integrative model," *Computers in Human Behavior,* vol. 92, pp. 306-315, 2019.

G. Başol and A. B. Kaya, "Motives and Consequences of Online Game Addiction: A Scale Development Study," *Archives of Neuropsychiatry,* vol. 55, no. 3, pp. 225-232, 2018.

G. I. A. W. Gismundo, "Gaming Habits of Post-Millennial Gamers in Pangasinan State University," *ASEAN Multidisciplinary Research Journal,* vol. 5, no. 1, 2020.

G. Keskin, S. Gümüşsoy and E. Aktekin, "Entrepreneurship: Is it an addiction?," *Procedia-Social and Behavioral Sciences,* vol. 195, pp. 1694-1697, 2015.

G. Oh and T. Ryu, "Game Design on Item-selling Based Payment Model in Korean Online Games," in *DiGRA Conference*, 2007, pp. 650-657.

H. C. Hsiao, "Reflective Learning through Playing Digital Game The Sims 2," in *International Conference on Technologies for E-Learning and Digital*

Entertainment, Springer, Berlin, Heidelberg., 2009, pp. 220-227.

I. Granic, A. Lobel and R. C. M. E. Engels, "The benefits of playing video games," *American psychologist,* vol. 69, no. 1, pp. 66-78, 2014.

J. Arango-López, C. C. Cerón Valdivieso, C. A. Collazos, F. L. Gutiérrez Vela and F. Moreira, "CREANDO: Tool for creating pervasive games to increase the learning motivation in higher education students," *Telematics and Informatics,* vol. 38, pp. 62-73, 2019.

J. Bernard, T.-W. Chang, E. Popescu and S. Graf, "Learning style Identifier: Improving the precision of learning style identification through computational intelligence algorithms," *Expert Systems with Applications,* vol. 7, no. 1, pp. 94-108, 2017.

J. Billieux, D. L. King, S. Higuchi, S. Achab, H. Bowden-Jones, W. Hao, J. Long, H. K. Lee, M. N. Potenza, J. B. Saunders and V. Poznyak, "Functional impairment matters in the screening and diagnosis of gaming disorder," *Journal of Behavioral Addictions,* vol. 6, no. 3, pp. 285-289, 2017.

J. G. Reitman, M. J. Anderson-Coto, M. Wu, J. S. Lee and C. Steinkuehler, "Esports Research: A Literature Review," *Games and Culture,* vol. 15, no. 1, pp. 32-50, 2020.

J. Hamari and L. Keronen, "Why do people play games? A meta-analysis," *International Journal of Information Management,* vol. 37, no. 3, pp. 124-141, 2017.

J. Krath, L. Schürmann and H. F. O. von Korflesch, "Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based learning," *Computers in Human Behavior,* vol. 125, 2021.

J. Macey, "What predicts esports betting? A study on consumption of video games, esports, gambling and demographic factors," *New Media & Society,* vol. 23, no. 6, pp. 1481-1505, 2021.

J. T. Holden and S. C. Ehrlich, "Esports, skins betting, and wire fraud vulnerability," *Gaming Law Review,* vol. 21, no. 8, pp. 566-574, 2017.

J. Zhu, W. Zhang, C. Yu and Z. Bao, "Early adolescent Internet game addiction in context: How parents, school, and peers impact youth," *Computers in Human Behavior,* vol. 50, pp. 159-168, 2015.

K. A. Haberlin and D. J. Atkin, "Mobile gaming and Internet addiction: When is playing no longer just fun and games?," *Computers in Human Behavior,* vol. 126, 2022.

K. Hallmann and T. Giel, "eSports – Competitive sports or recreational activity?," *Sport Management Review,* vol. 21, pp. 14-20, 2018.

L. Darvin, J. Holden, J. Wells and T. Baker, "Breaking the glass monitor: examining the underrepresentation of women in esports environments," *Sport Management Review,* vol. 24, no. 3, pp. 475-499, 2021.

L. Gatti, M. Ulrich and P. Seele, "Education for sustainable development through business simulation games: An exploratory study of sustainability gamification and its effects on students' learning outcomes," *Journal of Cleaner Production,* vol. 2017, pp. 667-678, 2019.

L. Jegatha Deborah, R. Baskaran and A. Kannan, "Learning styles assessment and theoretical origin in an E-learning scenario: a survey," *Artificial Intelligence Review,* vol. 42, no. 4, pp. 801-819, 2014.

L. Ledesma, "Decentraland's MANA Token Hits All-Time High After Sale of Virtual Real Estate," 25 November 2021. [Online]. Available: https://www.coindesk.com/markets/2021/11/25/decentralands-mana-token-hits-all-time-high-after-sale-of-virtual-real-estate/. [Accessed 12 March 2022].

L. Manfredi, "Virtual real estate plot in Decentraland sells for record $2.4M in cryptocurrency," 25 November 2021. [Online]. Available: https://www.foxbusiness.com/real-estate/virtual-real-estate-plot-decentraland-sold-record-2-4m-cryptocurrency. [Accessed 12 March 2022].

L. P. S. Dias, J. L. V. Barbosa and H. D. Vianna, "Gamification and serious games in depression care: A systematic mapping study," *Telematics and Informatics,* vol. 35, no. 1, pp. 213-224, 2018.

M. A. Khenissi, F. Essalmi, M. Jemni, Kinshuk, S. Graf and N.-S. Chen, "Relationship between learning styles and genres of games," *Computers & Education,* vol. 101, pp. 1-14, 2016.

M. A. Throuvala, M. Janikian, M. D. Griffiths, M. Rennoldson and D. J. Kuss, "The role of family and personality traits in Internet gaming disorder: A mediation model combining cognitive and attachment perspectives," *Journal of Behavioral Addictions,* vol. 8, no. 1, pp. 48-62, 2019.

M. Baloğlu, R. Şahin and I. Arpaci, "A review of recent research in problematic internet use: gender and cultural differences," *Current Opinion in Psychology,* vol. 36, pp. 124-129, 2020.

M. Nadini, L. Alessandretti, F. Di Giacinto, M. Martino, L. M. Aiello and A. Baronchelli, "Mapping the NFT revolution: market trends, trade networks and visual features," 20 September 2021. [Online]. Available: http://arxiv.org/abs/2106.00647.

M. von Meduna, F. Steinmetz, L. Ante, J. Reynolds and I. Fiedler, "Loot boxes are gambling-like elements in video games with harmful potential: Results from a large-scale population survey," *Technology in Society,* vol. 63, 2020.

M. Yogman, A. Garner, J. Hutchinson, K. Hirsh-Pasek and R. M. Golinkoff, "The power of play: A pediatric role in enhancing development in young children," *Pediatrics,* vol. 142, no. 3, pp. 1-17, 2018.

N. M. Aljaberi, "University students' learning styles and their ability to solve mathematical problems," *International Journal of Business and Social Science,* vol. 6, no. 4, 2015.

N. M. Petry and C. P. O'Brien, Internet gaming disorder and the DSM-5, 2013.

N. Yu and Y.-T. Huang, "Why do people play games on mobile commerce platforms? An empirical study on the influence of gamification on purchase intention," *Computers in Human Behavior,* vol. 126, 2022.

O. Lopez-Fernandez, A. J. Williams, M. Griffiths and D. J. Kuss, "Female Gaming, Gaming Addiction, and the Role of Women Within Gaming Culture: A Narrative Literature Review," *Frontiers in Psychiatry,* vol. 10, 2019.

O. Ruvalcaba, J. Shulze, A. Kim, S. R. Berzenski and M. P. Otten, "Women's Experiences in eSports: Gendered Differences in Peer and Spectator Feedback During Competitive Video Game Play," *Journal of Sport and Social Issues,* vol. 42, no. 4, pp. 295-311, 2018.

P. F. Bass, ". Gaming addiction: When going online goes off-kilter," *Contemporary Pediatrics,* vol. 32, no. 11, pp. 16-23, 2015.

P. Klimas, "Current Revenue (Monetisation) Models of Video Game Developers," *Journal of Management and Financial Sciences,* vol. 10, no. 28, pp. 119-136, 2017.

Q. Wang, R. Li, Q. Wang and S. Chen, "Non-fungible token (NFT): overview, evaluation, opportunities and challenges," 25 October 2021. [Online]. Available: http://arxiv.org/abs/2105.07447.

R. A. Mentzoni, G. S. Brunborg, H. Molde, H. Myrseth, K. J. M. Skouverøe and J. H. S. Pallesen, "Problematic video game use: estimated prevalence and associations with mental and physical health," *Cyberpsychology, behavior, and social networking,* vol. 14, no. 10, pp. 591-596, 2011.

R. M. Felder and B. A. Soloman, "Learning styles and strategies," 2000. [Online]. Available: http://www.engr.ncsu.edu/learningstyles/ilsweb.html. . [Accessed 13 March 2022].

R. M. Ryan, ·. C. S. Rigby and A. Przybylski, "The Motivational Pull of Video Games: A Self-Determination Theory Approach," *Motivation and emotion,* vol. 30, no. 4, pp. 344-360, 2006.

R. van den Eijnden, n. Koning, S. Doornwaard, F. van Gurp and T. ter Bogt, "The impact of heavy and disordered use of games and social media on adolescents' psychological, social, and school functioning," *Journal of Behavioral Addictions,* vol. 7, no. 3, pp. 697-706, 2018.

S. C. Wortham, J. L. Frost and R. S. Reifel, Play and Child Development, Pearson, 2012.

S. Dayaram, "NFTs of cartoon apes sell for $24.4 million at Sotheby's auction," 10 September 2021. [Online]. Available: https://www.cnet.com/culture/internet/nfts-of-cartoon-apes-sell-for-24-4-million-at-sothebys-auction/. [Accessed 12 March 2022].

S. E. G. Lea and P. Webley, "Money as tool, money as drug: The biological psychology of a strong incentive," *Behavioral and brain sciences,* vol. 29, no. 2, pp. 161-176, 2006.

S. Laconi, N. Tricard and H. Chabrol, "Differences between specific and generalized problematic Internet uses according to gender, age, time spent online and psychopathological symptoms," *Computers in Human Behavior,* vol. 48, pp. 236-244, 2015.

S. M. Bender and B. Sung, "Fright, attention, and joy while killing zombies in Virtual Reality: A psychophysiological analysis of VR user experience," *Psychology & Marketing,* vol. 38, no. 6, pp. 937-947, 2021.

S. M. Kim, D. H. Han, Y. S. Lee and P. F. Renshaw, "Combined cognitive behavioral therapy and bupropion for the treatment of problematic on-line game play in adolescents with major depressive disorder," *Computers in Human Behavior,* vol. 28, no. 5, pp. 1954-1959, 2012.

S. M. Nguyen and P.-Y. Oudeyer, "Active choice of teachers, learning strategies and goals for a socially guided intrinsic motivation learner," *Paladyn, Journal of Behavioral Robotics,* vol. 3, no. 3, pp. 136-146, 2012.

S. Sandrone and C. Carlson, "Gamification and game-based education in neurology and neuroscience:

Applications, challenges, and opportunities," *Brain Disorders,* vol. 1, 2021.

S. San-Martín, N. Jimenez, C. Camarero and R. San-José, "The Path between Personality, Self-Efficacy, and Shopping Regarding Games Apps," *Journal of Theoretical and Applied Electronic Commerce Research,* vol. 15, no. 2, pp. 59-75, 2020.

S. Venkataramakrishnan and G. Steer, "Would you buy a home in the metaverse?," 27 January 2022. [Online]. Available: https://www.ft.com/content/f5d5bed3-8cf2-40c6-8f85-6b824a223ffe. [Accessed 12 March 2022].

Statista Research Department, "Philippines: online gamers by gender 2020," 18 January 2022. [Online]. Available: https://www.statista.com/statistics/1117233/philippines-online-gamers-by-gender/. [Accessed 23 March 2022].

T. A. Litzinger, S. H. Lee, J. C. Wise and R. M. Felder, "A psychometric study of the index of learning styles©," *Journal of engineering education,* vol. 96, no. 4, pp. 309-319, 2007.

T. Greitemeyer, N. Weiß and T. Heuberger, "Are everyday sadists specifically attracted to violent video games and do they emotionally benefit from playing those games?," *Aggressive Behavior,* vol. 45, no. 2, pp. 206-213, 2019.

T. S. Hardenstein, "Skins in the game: Counter-strike, esports, and the shady world of online gambling," *UNLV Gaming LJ,* vol. 7, pp. 117-137, 2017.

V. Stavropoulos, E. E. Anderson, C. Beard, M. Q. Latifi, D. Kuss and M. Griffiths, "A preliminary cross-cultural study of Hikikomori and Internet Gaming Disorder: The moderating effects of game-playing time and living with parents," *Addictive Behaviors Reports,* vol. 9, 2019.

W. Li, D. Mills and L. Nower, "The relationship of loot box purchases to problem video gaming and problem gambling," *Addictive Behaviors,* vol. 97, pp. 27-34, 2019.

W. Seong, J. S. Hong, S. Kim, S. M. Kim and D. H. Han, "Personality and psychological factors of problematic internet gamers seeking hospital treatment," *Frontiers in Psychiatry,* 2019.

World Health Organization, "ICD-11 beta draft (mortality and morbidity statistics) [database on the internet]," 2016. [Online]. Available: https://icd.who.int/dev11/l-m/en. [Accessed 13 March 2022].

Y. Qin, H. Cho and L. Zhang, "Augmentation and displacement effects of multiplayer social network games: Examining the roles of social interactions and co-players' identities," *Telematics and Informatics,* vol. 59, 2021.

Y.-M. Huang, "Exploring the factors that affect the intention to use collaborative technologies: The differing perspectives of sequential/global learners," *Australasian Journal of Educational Technology,* vol. 31, no. 3, pp. 278-292, 2015.

Z. Traş, "Internet addiction and loneliness as predictors of internet gaming disorder in adolescents," *Educational Research and Reviews,* vol. 14, no. 13, pp. 465-473, 2019.