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EXPLORING THE ROLE OF LONELINESS, DEPRESSION, AND IDEAL SELF- IMAGE CONGRUENCE ON ONLINE GAME ADDICTION: PSYCHOLOGICAL OWNERSHIP AS MEDIATING VARIABLE

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ABSTRACT

Online gaming has become a popular form of electronic entertainment for people around the world. However, the growing reputation of online gambling can lead to addiction in certain situations. This is a topic that has received a lot of attention. The purpose of this research is to bring the meaning of psychological ownership as a joint mediator of loneliness, depression, and psychological ownership closer to video game addiction (OGA). Using the partial least squares structural equation modeling technique, we tested the survey model for 154 valid responses from a Google Forms survey. Searches show that depression and ideal self-image are undoubtedly related to the psychological responsibility of online game addiction. The curvilinear relationship between psychological ownership and OGA means that higher psychological ownership is associated with better OGA. This study provides practical advice and solutions to address the OGA's growing concern. In the first place, their environment must encourage them to participate in external activities consisting of sports tournaments and offline cosplay video games to help them overcome loneliness and take ideal images, not 2d, families should know that OGA exists in their homes. OGA could be the way they deal with depression. In addition, this is the first study to investigate the horrifying aspects of a gambling organization that lends out spiritual property to keep players hooked on the game.

Keywords: *Online Game Addiction, Psychological Ownership, Loneliness, Depression, Ideal Self-Image Congruence*

1. Introduction

Video games have ended up a famous kind of electronic amusement, as indicated by way of the over 2.2 billion active game enthusiasts globally [1]. Gaming has existed in lots of forms for the duration of human records as a tool to assist humans in loosening up and breaking out from their ordinary routines [2]. Gambling video games facilitates the creation of community-wide social capital, which inspires shared institution values, intergroup trust, and collaboration, in addition to supplying amusement [2]. In spite of the blessings of gaming, the developing reputation of online video games has had some terrible effects [3] as the wide variety of recorded cases of online gaming addiction (OGA) has grown, so has the number of terrible repercussions, consisting of neglecting family duties, process loss, health problems, illegal activity, or even demise [4].

OGA refers to a psychological dependency on a certain set of information era artifacts, most notably online gaming, that has become maladaptive. [5]. Our primary concern is with the elements that contribute to OGA. Extrinsic elements (such as the game's structural characteristics and the participant-character interaction) have previously been linked to gaming addiction. [6]), as well as internal factors (such as a gamer's persona features [7]).

Bhagat stated that Lonely individuals are much more likely to be attracted to the online social interplay feature constructed within the MMORPGs, online position-gambling video games wherein a very large variety of humans participate simultaneously [8]. Additionally, we are searching for similarly the position of psychological ownership from the psychological trait of You [9] and Klimmt [10]. You claimed that better melancholy scores had been connected to higher internet dependency rankings and that 54% of internet addicts had a record of despair, whereas Klimmt located that when the game self is more congruent with the player's perfect self, players understand their game character as more interactive and controllable, leading to extra pride with character interaction and success of game desires. The intention of this look is to get higher know-how of ways psychological ownership might assist individuals who are depressed, lonely, or looking for their ideal self-photo come to be hooked to online video games.

2. Literature Review

2.1 Loneliness and Psychological Ownership

Loneliness is the unpleasant sense of social isolation that occurs when social wants are not properly satisfied [11]. People who feel lonely frequently yearn for social connections. While a person's fundamental desire for closeness and social connection is miserable in a kingdom of loneliness. It will cause the mind to manipulate social cognition and executive capacities in order to change one's interest, cognition, emotion, and conduct in order to meet societal norms or private wants [12].

Psychological ownership is the sense of belonging over an object, concept, organization, or another person – that may or may not be supported by formal ownership [13]. Given that loneliness substantially affects one's psychological ownership and physical well-being, successful coping with loneliness seems to play a critical role in maintaining one's healthy life. Loneliness also increases the consumption of items endorsed by the majority, particularly in public contexts. Because lonely consumers seek social approval and ownership psychologically, they tailor their spending to others' preferences [14]. Therefore, we propose the following hypotheses:

H1. Loneliness is positively associated with Psychological Ownership

2.2 Depression and Psychological Ownership

Depression refers to the negative emotional state of sadness, unhappiness, and indifference. Patients with depression often exhibit emotional symptoms, such as sadness, guilt, and drowsiness, as well as cognitive and behavioural symptoms, interpersonal difficulties, and indecisive attitudes [8]. There is ample evidence that depressed persons experience hostile and conflicted relations with their spouses, children, and other problems in their real-life [15].

Previous research indicates that there are several indications that psychological ownership is a predictive factor of depression symptoms in youth and that psychological ownership insecurity and depression co-occur. [16]. People in a depressed state tends to cope and avoid their situation by escaping their real-life situation to gain more engagement in online activities, such as online game [17]. People with a higher level of depression will engage their time to gain more familiarity with the online environment to gain psychological ownership [18]. Consequently, this study hypothesized:

H2. Depression is positively associated with Psychological Ownership

2.3 Ideal Self-Image Congruence and Psychological Ownership

Users are typically encouraged to become present in the virtual world by integrating their character into the game environment in online games. Players perceive a melding of minds rather than merely a connection when they have total control and engagement with their characters, as known as character attachment [19]. Character attachment was defined as the internalization and psychological ownership of a player's and their character's thoughts. Players who identify with their gaming characters become involved in the virtual world, imagine themselves as the character, replace their own identities and roles with those of the character, like pretending to be the character, and are drawn to their character [20]. The player's psychological ownership of the character grows stronger the more a character resembles the player's ideal self-image and the deeper the link the player feels between the self and the character [21]. This led to the development of the following hypotheses:

H3. Ideal Self Image Congruence is positively associated with Psychological Ownership

2.4 Psychological ownership and Online Game Addiction

The feeling of "this is my virtual world" or "I feel like I own this virtual world" can be referred to as psychological ownership in the context of online gaming. Aggression and hostility have been linked to Online Game Addiction by the previous study, and these traits can be induced by psychological factors [22]. Other research has found that psychological ownership of extrinsic goods can lead to lower self-esteem, introversion, and social inhibition, all of which are major predictors of online gaming addiction [17].

He also anticipated that while psychological ownership is low, Online Game Addiction will rise as psychological ownership increases. OGA, on the other hand, declines at a given amount of psychological ownership. In contrast, some highly competent players may lose interest in the game after completing all game objectives and exploring most of the virtual world's locations. High degrees of psychological ownership might be linked to boredom and game weariness, according to one theory [23]. Thus, based on the previous discussion, we propose the following hypothesis:

H4. Psychological ownership has a reversed U-shaped effect with OGA, such that the effect of psychological ownership is positive at low levels but becomes negative at high levels.

2.5 Loneliness and Online Game Addiction

Loneliness has been shown to be the most important predictor of Internet use problems in loneliness, depression, and computer self-efficacy [24]. It has been established that loneliness, self-esteem, and life satisfaction account for 38% of the total variation in Internet addiction, with loneliness being the most important predictor [25]. Through the relationship between online gaming addiction and Internet addiction, We can infer a link between loneliness and online gaming addiction, which adds to earlier studies on loneliness and online gaming addiction [26]. People feel lonely when their social connections are of poor quality and quantity. Furthermore, lonely people can quickly become hooked on online games and use them to meet their unmet social demands [27]. Based on these arguments, we propose the following hypotheses:

H5. Loneliness is positively associated with Online Game Addiction

2.6 Depression and Online Game Addiction

Addiction to online gaming has been demonstrated to have detrimental consequences in studies. These studies show that Internet gaming users have poor mental health, including despair and anxiety [28]. According to research, video games may be used as a distraction from issues and hence can act similarly to alcohol and gambling in the development of addiction. According to a previous study, addicted online game players were more likely to utilize games to relax and escape from despair than low-frequency gamers [29]. Many stressors—such as work, relationships, and financial problems—could trigger online game addiction, but past research indicates that depression, loneliness, and social anxiety are the specific cause associated with online game addiction and warrant more immediate investigation [30]. Prior research found that depression gamers would distance themself by using online game interaction to temporarily reduce or disengage from their social anxiety. If relied upon too often, this could lead to online game addiction [31]. Based on these arguments, we propose the following hypotheses:

H6. Depression is positively associated with Online Game Addiction.

2.7 Ideal Self-Image Congruence and Online Game Addiction

Actual and ideal self-image are two key elements of a person's total self-image that come from many points of reference to her/him. Consumers are more likely to pick a brand that matches one or more components of their self-image, according to many studies [32]. When playing an online game, players' ideal self-image is more essential than their genuine self-image. Researchers discovered that game players were more hooked to playing games when they created characters that reflected their ideal self-image rather than those who mirrored their actual personalities [33].

The more time players spend engaging with and learning about their gaming characters, the more they respect them. The majority of gamers get addicted after two years and spend more than 20 hours per week engaging with their ideal-self persona [34]. A previous study discovered that when players perceive their characters as extensions of their personality and see, hear, and feel what their character accomplishes in the game, they pay greater attention to the ornamentation and customization of their character. [35]. This discussion Based on these arguments, we propose the following hypotheses:

H7. Ideal self-image congruence is positively associated with Online Game Addiction.

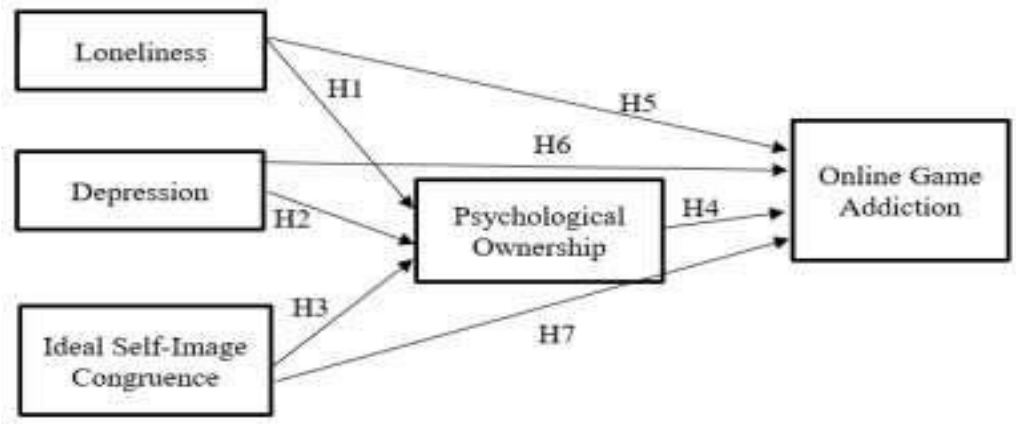

Figure 1. Research Framework

3. Research Method

The data collection process is divided into two stages. An initial study was the first step in the data gathering process. The goal of this phase was to concentrate on measurement concerns and to fine-tune the research tools before collecting the final results. Through the researcher's disagreement, the original questionnaire was given to 34 respondents. After determining that the reliability and validity of these 34 respondents were enough, the researcher proceeded to the next step. The researcher continued to send the questionnaire to 250 members of a gaming community forum, but only 170 responded. Following the collection of replies, the researcher removed responses from which the participant did not believe themselves to be gaming addicts. As a result, there are 154 valid replies left.

For the latent variable constructions, the researcher adopted questions from the social psychology and gaming literature. We use the Lemmens, Valkenburg [49] OGA scale, which is one of the most widely used game addiction scales. The researcher used Mary, Lynda [36] Loneliness scale, which is a short scale for measuring loneliness based on 20 items loneliness scale adapted from Russel [37]. Also, the researcher adapted Briggs [38] 's Depression scale consists of 8 items in it. We used the psychological ownership scale from Lee and Chen [39], which they adapted from Van Dyne and Pierce [40]. For ideal self-image congruence researcher adapted from Dong [41].

Our survey data is analyzed with SmartPLS 3.0. For the estimate, partial least squares (PLS) use a component-based structural equation modeling technique that places minimum constraints on data distribution [42]. Furthermore, calculating common factor models produces relatively little bias if the measurement model contains more than four indicators and the loadings fulfill suggested norms [41]. We may also use SmartPLS 3.0 to examine the quadratic effect, which is related to H4. We test our model in two steps, based on previous research with PLS models. [42]. In the first phase, we analyze the measurement model's reliability and validity, also known as the outer model, and then test the inner model, also known as the structural model [43].

4. Results and Discussion

4.1 Outer Model

Both convergent and discriminant validity are investigated. We found that: (a) all constructs' composite reliability is greater than 0.70; (b) all item loadings are greater than 0.70, and (c) all constructs' Average Variance Extracted (AVE) is greater than 0.50. The discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT), and all of the HTMT values were less than 0.9. We also looked at the inflation factor's index of variation (VIF). The VIF values varied from 1.141 and 2.126. As a result, multi- collinearity is not an issue in this research. Table 1 provides the results for item loadings and cross-loadings, and Table 2 provides the construct validity matrix. DPR Stands for Depression, While ISIC is Ideal Self-Image Congruence, LNL is for Loneliness, OGA is for Online Game Addiction, and PO is for

Psychological Ownership. DPR2, DPR4, DPR6, OGA5, OGA6, OGA7, and PO4 are eliminated from the final measurement because the value dropped.

Table 1. Item Loading and Cross Loading

	DPR	ISIC	LNL	OGA	PO
DPR1	0.805	0.343	0.557	0.479	-0.017
DPR3	0.787	0.451	0.321	0.399	0.118
DPR5	0.768	0.102	0.449	0.361	-0.047
DPR7	0.769	0.171	0.271	0.352	-0.096
DPR8	0.801	0.262	0.351	0.372	0.017
ISIC1	0.396	0.899	0.179	0.321	0.553
ISIC2	0.258	0.962	0.066	0.284	0.645
ISIC3	0.369	0.939	0.139	0.392	0.568
ISIC4	0.296	0.959	0.134	0.343	0.622
LNL1	0.541	0.028	0.875	0.444	-0.129
LNL2	0.460	0.287	0.925	0.440	0.137
LNL3	0.335	0.041	0.868	0.381	-0.022
OGA1	0.509	0.335	0.285	0.843	0.060
OGA2	0.375	0.188	0.364	0.808	0.009
OGA3	0.471	0.323	0.400	0.823	0.152
OGA4	0.263	0.286	0.489	0.751	0.237
PO1	-0.089	0.659	-0.100	0.066	0.929
PO2	0.026	0.566	-0.025	0.138	0.944
PO3	0.074	0.527	0.137	0.221	0.908

Table 2. Convergent Validy, Discriminant Validity, and Correlation of Constructs

	CA	CR	AVE	DPR	ISIC	LNL	OGA	PO
DPR	0.846	0.890	0.618					
ISIC	0.956	0.968	0.884	0.378				
LNL	0.868	0.919	0.792	0.571	0.160			
OGA	0.822	0.882	0.652	0.593	0.396	0.562		
PO	0.918	0.948	0.859	0.115	0.671	0.151	0.185	

4.2 Inner Model

The results of our hypothesis testing support 4 out of 7 hypotheses, with Table 3 and Table 4 showing the inner model interpretation output.

Table 3. Inner Model Interpretation Output

	p	M	STDEV	T Statistics	P Values
DPR -> OGA	0.215	0.237	0.103	2.091	0.037
DPR -> PO	-0.275	-0.272	0.086	3.202	0.001
ISIC -> OGA	0.202	0.194	0.112	1.806	0.072
ISIC -> PO	0.727	0.734	0.054	13.475	0.000
LNL -> OGA	0.348	0.338	0.102	3.418	0.001
LNL -> PO	0.035	0.030	0.063	0.545	0.586
PO -> OGA	0.085	0.090	0.076	1.118	0.264
POq -> OGA	0.153	0.149	0.073	2.084	0.038

Table 4. Results of Hypotheses Testing

Hypothesis	Independent Variable	Dependent Variable	Predicted	β	Supported / Not
H1	Loneliness	Psychological Ownership	+	0.035	Not Supported
H2	Depression	Psychological Ownership	+	-0.272	Supported
H3	Ideal Self-Image Congruence	Psychological Ownership	+	0.727	Supported
H4	Psychological Ownership	Online Game Addiction	∩	0.153	Not Supported
H5	Loneliness	Online Game Addiction	+	0.348	Supported
H6	Depression	Online Game Addiction	+	0.215	Supported
H7	Ideal Self-Image	Online Game Addiction	+	0.202	Not Supported

The effects of depression ($\beta = -0.275$, $p < 0.05$) and ideal self-image congruence ($\beta = 0.727$, $p < 0.01$) on psychological ownership are significance, hence its support H2 and H3. On the other hand, the effect of loneliness ($\beta = 0.035$, $p > 0.1$) is not significant on psychological ownership; thus, H1 is not supported. Psychological ownership's curvilinear transformation is positively associated with online game addiction ($\beta = 0.153$, $p < 0.05$), which is not supported for H4. The effect of loneliness ($\beta = 0.348$, $p < 0.05$) and depression ($\beta = 0.215$, $p < 0.05$) are significance toward online game addiction which are supported for H5 and H6. However, the role of ideal self-image congruence ($\beta = 0.202$, $p > 0.05$) is not positively associated with online game addiction; thus, it made H7 didn't support it. We report R^2, the goodness-of-fit measure for linear regression models, in the structural model results. Both of the R^2 values are 0.463 and 0.385. Figure 1 is provided for the structural model in SmartPLS 3.0.

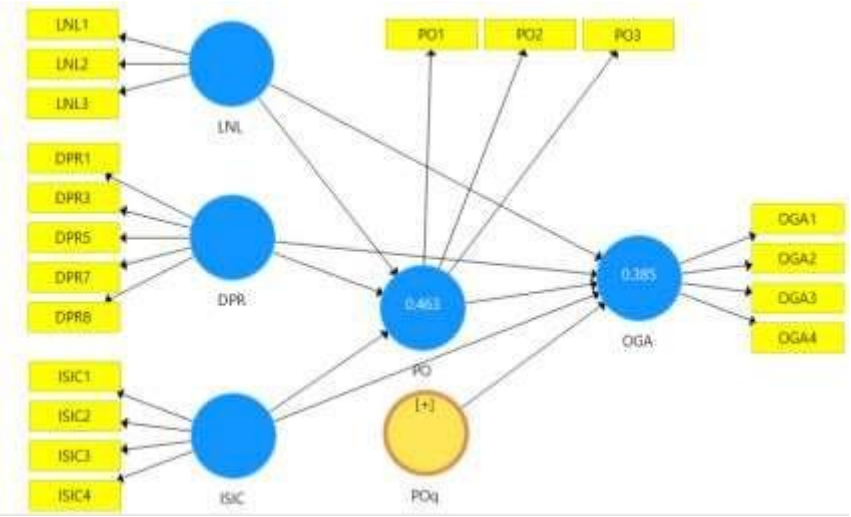

Figure 2. Structural Model

5. Conclusion and Implications

The goal of this study is to look at the effects of sadness, loneliness, and ideal self-image congruence on psychological ownership of the online gaming environment in order to see how psychological ownership relates to online game addiction. Our findings reveal that a gamer's psychological ownership of the virtual world is predicted by sadness and ideal self-image congruence. However, loneliness didn't relate to psychological ownership, but our results also show that loneliness and depression are the factors that could make gamers addicted to the online game while ideal self-image congruence does not. We postulate that individuals who wish to get rid of their loneliness and their depression feelings, will use more of their time playing game because it could cope with their loneliness and depression feelings by having interactions with other players and forget their real-life problems for a while. Our findings are in line with previous research by [26] and [29], who investigated the bridging role of loneliness and depression with problematic gaming use, but my finding that ideal self-image congruence didn't have a significant connection with problematic gaming use is contrary with finding on research by [34]. Last, we find a curvilinear transformation between psychological ownership and online gaming addiction. But it didn't as we predicted with our references by [23], but supported by the findings by [17]. Our findings show that at low levels of psychological ownership, OGA increases as the level of psychological ownership increases. A possible explanation is my findings didn't correlate with [23] is my respondent didn't reach boredom levels as high as they found. This study might have a lot of ramifications for a lot of people, including gamers and game designers. Our findings enable consumers to make an educated decision about their gaming activities. This study emphasizes the importance of numerous concerns associated with psychological ownership, which in turn connects to game addiction, while game designers may choose whether or not to build games for their players to get hooked.

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