Influence of Online Gaming on Behavior of Gamers in Pakistan

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ARTICLE DETAILS

ABSTRACT
This study reveals that online video games have emerged as a novel platform for social interaction, wherein numerous gaming options facilitate player’s competition and collective interaction within the virtual realm. Gamers have increasingly begun to form distinct virtual social communities due to the inherent capacity of these games to facilitate social networking in a multiplayer online setting. This phenomenon has given rise to a unique social dynamic among video game enthusiasts. The present study delves into an exploration of the social gaming behaviour exhibited by participants engaged in multiplayer online games. Additionally, it seeks to establish a correlation between virtual and real-world behaviours by examining the relationship between destructive and constructive social behaviours and the dominance and affiliation dimensions of social interaction.

Purpose: Online gaming has become a unique phenomenon among the young players with a significant influence on them. The basic objective of this study was to determine the social interaction caused by online gaming among young game players. This study conducted in Pakistani perspective has achieved the objections set to analyze the influence of online gaming and increased level of social interaction.

Design/Methodology/Approach: To conduct this investigation, an online survey was administered to individuals who regularly engage in multiplayer gaming activities and dedicate a substantial portion of their daily time to gaming. The study sample consisted of 200 gamers spanning an age range of 16 to 30 years.

Findings: The results of this inquiry shed light on the prevalence of pro-social behaviour and anti-social behaviour, characterized by constructive and destructive actions among gamers, respectively. Furthermore, the study reveals that destructive behaviour negatively predicts affiliation, while constructive behaviour has a

Keywords
Gamers, Multiplayer Online Game, Online Gaming, Online Video Games.

JEL Classification
M1, M2
Introduction
We must admit that the internet has completely altered the situation that how people play, interact with each other, and even think about the video games playing any role in our society (Granic et al., 2014; Przybylski et al., 2010). The transition from solitary gaming experiences to the current state of multiplayer online games (MOGs) indicates a significant change in the gaming sector (Granic et al., 2014). This transition has established video games as dynamic platforms for social engagement, transcending the virtual world effects in the real-world (Kowert et al., 2014). According to Granic et al. (2014), the increase in multiplayer online games (MOGs) has democratized online gaming by making it possible for players from different parts of the world to meet up in virtual worlds and engage in activities such as teaming up, battling with each other, and developing new social connections. In today’s time of digital technology, the act of online gaming has emerged as an interactive activity, hence reducing the difference between virtual and real interactions with others (Przybylski et al., 2014). This emergence within the realm of online gaming enjoys specific importance as it has fostered the growth of virtual social communities in our society.

Digital communities, which flourish inside the boundaries of multiplayer online games (MOGs) signify a vivid change in the way users perceive and interact with online video games (Hamari et al., 2014). Virtual communities of such type exhibit distinctive characteristics including the presence of mutual interests, shared objectives, and a deep sense of companionship that is beyond the boundaries of mere digital realm (Hamari et al., 2014). As per Kowert et al. (2014), virtually developed social communities are dynamic microcosms of social-life where players engage with one another; work together on different tasks, and into a form, which is preferably mutually beneficial social that goes beyond the sphere of mere online games. The players who previously characterized as isolated individuals absorbed in their virtual avatar have undergone a significant paradigm shift, wherein they now have assumed an active role within their inhabited communities. However, the development of virtual communities inside massively multiplayer online games is not at all an isolated phenomenon at this stage of technological development. We must analyze that nowadays social media platforms have changed altogether, so, we can also observe that people connect and talk to each other in different manner, therefore, MOGs have achieved novel places for the people to interact with each other. Granic et al. (2014) says that players in these groups accomplish a wide range of things, from producing plans to beat tasks in the game to just talking

positive predictive influence on affiliation. Moreover, certain demographic variables, such as age and gender, exert a significant impact on the prediction of dominance within the gaming community. The findings of this study provide substantial support for the notion that virtual social interactions have a notable influence on real-world behaviours, underscoring the interconnectedness between the online gaming environment and broader social dynamics.

Implications/Originality/Value: Online gaming has become a common practice not only among young adults but also among the minors. Thus, this phenomenon has reduced physical activities among the youth and even among the school going children. This study may provide an insight into the matter and possible appropriate recommendations as well.

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about their daily lives. The significance of this phenomenon, however, was not limited to the complexity of virtual social interactions but also to the potential influence it has exhibited on real-world behavior. The merging of online game players with offline identities has become a growing trend among the players, leading searches into the potential impact of virtual communities on their behavior beyond the boundaries of mere gaming environment (Kowert et al., 2014).

In an unprecedented regime of multiplayer online gaming, the demographic factors, such as ‘age’ and ‘gender’, have a vivid impact on the aspect that how individuals interact with each other and exhibit behavior in the online gaming world. The robust transformation of online gaming landscape has been intricately intertwined with the demographic attributes of the individuals engaging in gaming activities. However, the investigation of whether collaborative gaming experiences lead to increased pro-social behavior in individuals’ daily lives, or on the contrary, if harmful actions displayed in virtual environments have negative consequences that extend beyond the gaming context, is of notable importance. So, the primary objective of this research is to investigate the extent to which connections and behaviors established in virtual gaming environments may be applied to real-world situations. To thoroughly explore every aspect, the current in hand focuses on online gaining as an in-depth understanding of the socially exhibited gaming conduct displayed by the individuals who participate in multiplayer online games and in-depth examination of constructive as well as destructive social behaviors exhibited within online gaming communities. Moreover, the study may explore the potential connections between these behaviors and broader aspects of social interaction, such as dominance and affiliation.

**Literature Review**

The emergence of online video games has significantly reshaped the realm of leisure activities, thereby, it has significantly transformed the nature of online video gaming from a solitary hobby of one or a group of individuals to a dynamic medium for social interaction between two or more than two people. The profound impact of this transformation has been acknowledged by the research scholars, and academicians who have emphasized on the role of different online gaming options in “enabling player competition thus fostering the collective interaction between virtual realms” (Granic et al., 2014). In recent past, there has been a noticeable growth of specific virtual communities developed among the online gamers. This phenomenon may develop linkage to the inherent capability of the MOGs to grant permission to individuals to develop social networking (Hamari et al., 2014).

The component of online gaming has attracted a noticeable attention owing to its rapid growth. Moreover, this element has also resulted into significant growth of prevalent stereotypes around the pastime. This behavior has often linked to the popular culture with a distinct, exaggerated, and frequently unfavorable portrayal (Kowert and Oldmeadow, 2012). According to a study, individuals’ personal traits have a vivid impact on the preferences of online gaming and subsequent social interactions (Stiles, 2010). Sheeks and Birchmeier (2007) have provided empirical evidence in support of the concept that individuals with a higher attitude of shyness may display "better quality relationships" behavior among the persons residing within a world of online gaming. In research conducted by Park et al. (2011), this has been exhibited that those individuals who have exhibited an agreeable and extraverted personality trait would be more inclined to engage in online gaming activities. The findings revealed that ‘extraversion’ was believed to be the most primary personality trait, which refers to those individuals who are talkative and sociable. This attribute has great influence on individuals' motivation, who get them engaged in online gaming activities. The findings further revealed that those individuals who possess ‘extrovert’ element in their personality along with amiable traits may have a greater propensity for deriving enjoyment from engaging in
online gaming activities.

Fang and Zhu (2011) also provided an evidence for a unique concept that the individuals with high extraversion scores in the perspective of digital online gaming generally tend to choose those games, which include extensive social interactions between various individuals. Moreover, online gaming research studies have focused on the idea of social gaming behavior and its possible real-world effects. According to a study carried out by Granic et al. (2014), pro-social behaviors included different forms of collaboration, such as teamwork, cooperation, collaboration and aiding fellow members of the online gaming community. The findings indicated that individuals who engage themselves with online games in a harmonious manner, based on their own preferences and enjoyment, usually tend to experience positive psychological outcomes, and may also exhibit pro-social behaviors in their everyday life (Przybylski et al., 2010). Furthermore, Davis et al. (2002) have explained that interacting in online social places can be "a socially liberating experience".

Online game developers have tried to make games feel more social by value addition in-online game gestural system and a variety of text-based "emoticons," that can generally be used to exhibit emotions, which are usually shown merely in non-verbal manner i.e., face-to-face interactions (Wilkins, 1991). Such sort of interaction in multiplayer online games is generally called as "social interaction" because online gaming players collaborate with one another to accomplish tasks of the online games (Cole and Griffiths, 2007). Additionally, Greitemeyer and Osswald (2010) have discovered the people who participated in collaborative online gaming shown with a higher tendency to showcase pro-social behaviors, both inside the online gaming environment and outside of the online gaming setting. On the other hand, research scholars including Kowert et al. (2014) have also explored the negative aspects of social gaming, specifically focusing on the extent of anti-social behaviors exhibited in multiplayer online games. These behaviors, such as harassment of women or men at workplace or online and trolling on social media platforms, can have detrimental psychological impact on the online gaming community and may even lead to negative consequences in the real world.

The findings revealed that how virtual activities have an impact into real-world consequences more intense in gaming's historical progression from single-player experiences to social, and multiplayer settings. Furthermore, a study revealed that online gaming factor has developed into a massive social phenomenon with wider societal implications, going beyond mere simple entertainment for the community members (Kowert et al., 2012). A study conducted by Anderson and Dill (2000), provided investigation of the correlation between exposure of the individuals to violent video games and aggressive behavior exhibited by the individuals. Although, the primary and chief emphasis of the study was on aggressiveness rather than anti-social behavior, with addition to the possibility of adverse outcomes linked to online gaming encounters. Barnett et al. (2013) found strong linkage between playing online games and being lonely, depressed, or worried about being around other people. The study further found that online gamers had the signs of these psychological conditions. According to a study carried out by Lo et al. (2005), there was a strong correlation between the duration of time spent on playing online games and the possible level of anxiety emerged among Taiwanese adolescents.

**Theoretical Framework**

The virtual worlds have gained a massive popularity in recent past wherein a sharp increase in popularity in online gaming has been observed. Now, the researchers have started taking keen interest in carrying out research studies on impact and effects of online gaming on behavior of different age groups including children, adults, females and people in old age groups. This study has employed a Sociality in Multiplayer Online Games Scale (SMOG-11) from the destructive
(anti-social) and the constructive (pro-social) social interactive approach as theoretical framework for the study in hand. This study is also deep rooted in David Kiesler concept of Interpersonal Adjective Scale Revised Big-Five commonly known as IASR-B5. This scale discusses about two main dimensions including dominance-submission as well as friendliness-non-friendliness. Broadly speaking, the theory given by Kiesler discusses about ‘interpersonal circle’ which basically explores interpersonal behavior exhibited by different people of different age groups. The core concept of IASR-B5 sheds light on two key elements including ‘dominance’ and ‘nurturance’ in accordance with the interpersonal model of Kiesler. This model chiefly discusses five main personality traits including Agreeableness, Extroversion, Openness to Experience, Neuroticism and Surgency in general and it also discusses the individuals’ position to adjust themselves in assertiveness and showing cares for other fellow citizens. Park et al., (2011) has outlined in a study that people having ‘agreeable’ and ‘extraverted’ personality traits were more inclined towards online gaming. Therefore, two major approaches including ‘dominance’ and ‘nurturance’ have been employed in this study to examine the changing behavior of the people engaged in online gaming with the lens of Big Five personality traits.

**Research Hypothesis**

H1: Constructive in-game social interaction predicts dominance among gamers.
H2: Destructive in-game social interaction predicts dominance among gamers.
H3: Constructive in-game social interaction predicts affiliation among gamers.
H4: Destructive in-game social interaction does not predict affiliation among gamers.

**Materials and Methods**

This research employs quantitative design with a survey method to comprehend the relationship between in-online game social interaction of the players or gamers and its possible impact on their real-life behavior. To analyze the research questions of this study, an online survey was conducted by adopting Sociality in Multiplayer Online Games Scale (SMOG-11) given by Hughes (2015), having 5-items of destructive in-game social interaction and 6-items of constructive in-game social interaction indicating anti-social and pro-social behaviors, respectively. Moreover, 4-items from Ten-Item Personality Inventory (TIPI), which is an extremely brief measure of The Interpersonal Adjective Scale Revised Big-Five (IASR-B5) constructed by Gosling et al. (2003), are employed to measure dominance and affiliation among the gamers. These 4-items are two pairs, first pair belongs to Extroversion/Surgency (dominance), and second pair belongs to Agreeableness (affiliation). The data was collected from 200 active players of online multiplayer games by using an online survey form created on Google forms. Data collection was based on random convenience sampling. In total, there were 211 respondents who became a part of this study and 200 were selected by excluding the incomplete responses, among them 134 (67%) were male and 66 (33%) were female. Respondents belong to four age groups ranging from 16-30 years. These respondents belonged to high and lower socioeconomic statuses and comprised of committed: married, engaged, and bonded, uncommitted: unmarried, not engaged, or bonded, and complicated: a partnership with difference of expectations and boundaries, relationships. Additionally, the research focused on targeting the active players of online multiplayer games who can clearly understand the context of research and terminologies used in the questionnaire within the employed scales to ensure the reliability of the study. The data analysis was performed on IBM SPSS Statistics 29.0.2.0 using Descriptive Analysis and Linear Regression.

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Group</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-19</td>
<td>60</td>
<td>30.0</td>
<td></td>
</tr>
<tr>
<td>20-23</td>
<td>65</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>24-27</td>
<td>45</td>
<td>22.5</td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>30</td>
<td>15.0</td>
<td></td>
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</table>
### Table 2. Gameplay Frequency

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a week</td>
<td>115</td>
<td>57.5</td>
</tr>
<tr>
<td>Twice a week</td>
<td>35</td>
<td>17.5</td>
</tr>
<tr>
<td>3-4 times a week</td>
<td>12</td>
<td>6.0</td>
</tr>
<tr>
<td>Daily</td>
<td>38</td>
<td>19.0</td>
</tr>
</tbody>
</table>

### Table 3. Linear Regression test for Constructive Social Interaction and Extroversion/Surgency (Dominance)

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Regression Weights</th>
<th>Beta Coefficient</th>
<th>R²</th>
<th>F</th>
<th>p-value</th>
<th>Hypotheses Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>CSI</td>
<td>.363</td>
<td>.132</td>
<td>30.087</td>
<td>&lt; .001</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Results

The empirical findings of this research showed that there is an impact of virtual world constructive and destructive social interaction on real-world personality or behavior of gamers. These variables were analyzed through linear regression for prediction of accurate effects. To determine whether in-game constructive social interaction impacts in causing dominant behavior among gamers, linear regression was performed, and P value was found to be less than 0.001 which shows high significance. The R² value explains 1.3% variance in constructive social interaction indicating dominance among gamers as their personality trait.

Similarly, in-game destructive social interaction also predicts dominance or extroversion/surgency among gamers with P value < .001 which indicates highly significant impact. The R² value explains 5.7% variance in destructive social interaction indicating dominance among gamers in real life.
Table 4. Linear Regression test for Destructive Social Interaction and Extroversion/Surgency (Dominance)
Furthermore, in-game constructive social interactions have also carried out a significant impact in causing agreeableness among gamers with P value < .001 showing constructive social interaction predicts their affiliative behavior. 8.8% variance in constructive social interaction indicating affiliation among gamers was explained by R2 value.

On contrary, it was found that destructive social interactions in online multiplayer games have not significantly predict affiliation among gamers with P value .747 which indicates that destructive in-game social interaction cannot play a significant role in causing agreeableness as a personality trait among the gamers. The R2 value explains 0.1% variance in destructive social interaction indicating affiliation among gamers.

Table 5. Linear Regression test for Constructive Social Interaction and Agreeableness (Affiliation)

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Regression Weights</th>
<th>Beta Coefficient</th>
<th>R²</th>
<th>F</th>
<th>p-value</th>
<th>Hypotheses Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3 CSI</td>
<td>-</td>
<td>.297</td>
<td>.088</td>
<td>19.170</td>
<td>&lt; .001</td>
<td>Yes</td>
</tr>
<tr>
<td>Affiliation</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Table 6. Linear Regression test for Destructive Social Interaction and Agreeableness (Affiliation)

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Regression Weights</th>
<th>Beta Coefficient</th>
<th>R²</th>
<th>F</th>
<th>p-value</th>
<th>Hypotheses Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4 DSI</td>
<td>-</td>
<td>.023</td>
<td>.001</td>
<td>.104</td>
<td>.747</td>
<td>Yes</td>
</tr>
<tr>
<td>Affiliation</td>
<td></td>
<td></td>
<td></td>
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</table>

Discussion
The result of this study reveals that in-online game constructive or the social interaction, and destructive or the anti-social interaction have vivid impact on the gamers’ dominance in real-life environment. Similarly, in-online game pro-social behavior also has massive impact on the gamers’ affiliation in real-life settings, but the anti-social behavior does not predict affiliative behavior among the online gamers. The findings further describe a systematic outlook of variables as in-game constructive and destructive behaviors, which are the predictors of extroversion/surgency as a personality trait among gamers. Likewise, these behaviors are also the predictors of agreeableness as a personality trait among gamers, but the statement is true only for in-game constructive behavior, which means that the more gamers belonging to age group 16-30 engage in in-game constructive behavior while playing online multiplayer games, the more they develop dominance or affiliation as their personality trait. Hence, the assumption is valid as in-game constructive social interaction has a significant impact on predicting extroversion and agreeableness as personality traits among online multiplayer games’ players. Similarly, in-game destructive social interaction has also predicted extroversion/surgency among the gamers. Online multiplayer games also helped people talk to each other and get involved as a group, which gave people more power over others. In general, the study suspects that while playing multiplayer games, in-game pro-social interaction shapes the real-world personality traits of gamers such as extroversion/surgency and agreeableness which in turns lead to have behaviors such as extraverted, enthusiastic, sympathetic, and calm. On the other hand, in-game anti-social behavior shapes the real-world personality traits of gamers such as critical and quarrelsome (extroversion/surgency), but it does not show reserved and quiet
(agreeableness) behavior of gamers in real-life environment. Research has further revealed that exposure to certain material may have a detrimental impact on player behavior. In contrary to this, several researchers have also highlighted the adverse outcomes of online multiplayer games on players. The study also found that online gamers had a lot of the signs of certain psychological conditions. In comparison to other studies, this study also approves the critical and quarrelsome behavior among the players even if there is a constructive in-game social interaction. But this research has left a gap by not addressing other personality traits from the Big Five personality traits that would be crucial to explain the real-world behavior of gamers due to constructive or destructive in-game social interactions. Moreover, this research contributes to the existing literature because: it connects in-game social interactions with personality traits of gamers, the theoretical framework of this study explains the gamers’ behaviors not only in the virtual world but also in the real world setting which is significant for the researchers to explore this area of research as well.

Conclusion
In this research, the findings support the presumptions made that in-game constructive social interaction has an impact in developing extroversion/surgency and agreeableness personality traits among gamers belong to age group 16-30, while in-game destructive social interaction also has an impact for extroversion/surgency but not for agreeableness among gamers belonging to the same age group by approving all the hypotheses of this study. Based on the findings of this research and the literature evidence, there is a significant impact of in-game social interaction on real-life interactions of those people who play online multiplayer gamers on regular basis. Regarding this, the research motivates the researchers to further investigate the impact of in-game social interaction while playing online multiplayer games on real-world personalities of gamers.

References
Networking, 15(6), 303-307.