IMPACT OF ONLINE GAMING ON SOCIAL SKILLS AND INTELLIGENCE

Submitted by:
Name: Harshita Yadav
Programme: B.A. (Hons.) Applied Psychology
Professor

Faculty Guide:
Name: Mr. Nikhilraj Kola
Designation: Associate

AMITY INSTITUTE OF PSYCHOLOGY AND ALLIED SCIENCES AMITY UNIVERSITY UTTAR PRADESH, NOIDA

ABSTRACT
With the gaming industry's incredible evolution, there is an emergent need to balance player engagement with well-being. Since the outbreak of COVID-19, studies in psychology & associated fields have shown a renewed curiosity towards studying gaming behaviour among the young population. The goal of this study was to explore the impact of present young adults' engagement in online gaming activities on their social skills & its correlation with their intelligence level. Specifically, the study intended to probe the link between social skills and intelligence level in young adults, as well as to determine if there exist any differences on account of gender within these variables. The sample comprised of 81 undergraduate students (44 male & 38 female) within ages 18-23 years studying in Delhi-NCR. Social Functioning (SFQ) & Raven’s Progressive Matrice (RSPM) were used to derive data as measures of social skills and intelligence level, respectively. Statistical analysis was done using Pearson’s Product-Moment Correlation & Welch’s t-test.

The analysis has revealed a potential link between cognitive performance and social interactions (r = -0.239, p = 0.032), indicating an inverse relationship between scores on the cognitive task (Raven's Standard Progressive Matrices) and scores on social functioning. Intriguing findings regarding gender disparities were revealed by performing thorough analysis of the social functioning and cognitive performance of our participants, revealing interesting gender differences within our sample.

INTRODUCTION
In our current modern scenario online gaming platforms have successfully incorporated itself in our day-to-day activities attracting millions of people around the globe. Gaming has become a popular form of entertainment, available on various platforms such as PlayStations, Xboxes, PCs, laptops, and mobile phones. It's not just a hobby; it's a complex experience that fulfils many different needs for the people who play it. Many people find solace in exploring the virtual worlds of online games as a way to take a break from the stresses of everyday life. It's a way to relax and unwind, face challenges, and feel a sense of
accomplishment. Competition can be exciting and engaging, while immersive worlds provide relaxation and enjoyment.

It is not just mere experience of personal gains rather goes beyond that incorporating the social experience of a player. It's a place where teenagers and young adults can connect and interact with others, looking for friendship and companionship. Playing multiplayer games goes beyond just pixels and screens; it's about building real connections and nurturing communities. Gaming allows people from all over the world to connect and form meaningful relationships, regardless of where they are located. It's amazing how shared experiences in gaming can bring people together and create a strong sense of belonging.

Additionally, studies indicate that online gaming is not only for entertainment but also serves as a mental exercise. Playing puzzle and mystery-based games can help keep your mind sharp and agile by stimulating cognitive functions. Adventure games immerse players in challenging situations that require strategic thinking and problem-solving skills.

Online gaming is not just about pixels and polygons; it's a lively ecosystem that provides entertainment, challenges, and connections. Technology has truly enriched our lives and brought us together in ways we never thought possible.

**History of Online gaming**

Let's go back in time to look at the interesting history of online gaming, which started in the early 1970s with the rise of packet-based computer networking. Imagine a time when the digital world was just starting out, but people were already coming up with new ideas.

One of the earliest pioneers was Multiuser Dungeon, born in 1978, a virtual realm where adventurers could come together and go on epic quests. Before that, there was "Pang," a simple computer tennis game that set the stage for future developments.

During the 1980s, online gaming became more popular with the release of commercial games that offered a variety of experiences, from immersive role-playing games to action-packed adventures. These initial explorations into virtual worlds paved the way for future developments.

The 1990s were a significant time as Massively Multiplayer Online games, or MMOGs, started becoming popular. Players from all over the world could come together on shared servers in virtual playgrounds, forming a network of interconnected worlds where they could collaborate and compete. Games such as Ultima Online and EverQuest captured the attention of players, leading the way for a genre that remains popular today.

By the 2000s, the gaming world saw another change with the introduction of consoles such as PlayStation and Xbox 360. These stylish machines helped bring gaming to the living rooms of millions, making the community even more prominent in mainstream culture. One of the most important changes occurred when social media became popular in the 2010s. Gaming quickly became more than just something people did alone; it turned into a popular social activity. Platforms such as Facebook have become like virtual arcades
where friends can gather to play together, helping to build connections and camaraderie despite being separated by digital barriers. Games such as "Angry Birds" and "FarmVille" were loved by millions, turning smartphones into gateways to unlimited fun.

Online gaming has changed and improved over time, keeping up with new technology and changes in society. However, fundamentally, it still stands as a tribute to the resilience of humanity—an opportunity for relaxation, a test of skills, and a place for connection all combined into one. Looking ahead, it's clear that we are just getting started on this journey.

**Gaming in Present Scenario**

During the spring of 2020, gaming became extremely popular as people turned to it for entertainment during the start of the global COVID-19 pandemic. During a time of uncertainty and lockdowns, gaming became a source of comfort and connection, especially for younger generations such as Gen Z and Millennials.

During the stay-at-home orders and social distancing protocols, gaming became a comforting escape, providing entertainment during times of isolation. It was a shared experience where friends could come together virtually to compete and collaborate, creating a sense of camaraderie despite the physical distance.

Mobile gaming became popular, especially with the release of well-known PC games like Player Unknown’s Battlegrounds (PUBG), Call of Duty, and Among Us on mobile devices. The convenience and low cost of mobile devices have really appealed to the younger generation, making gaming more accessible and attracting a larger audience. In addition, the changing world of gaming shows the forward-thinking beliefs of young people today. Game developers are starting to include more diversity in their games, creating stories that promote inclusivity and representation. With a variety of characters and storylines, gaming is becoming a more inclusive space, reflecting the diverse nature of the real world.

Gen Z is having a significant impact on the gaming industry with their preferences and values shaping its future. They are bringing in a new era of gaming that is inclusive, innovative, and reflects the diverse perspectives and creativity of humanity.

**Social skills**

Social skills are essential for our interactions with others, connecting us to the community around us. In simple terms, they are the tools we use to navigate the complexities of human interaction. Communication involves more than just talking and listening. It's also about interpreting nonverbal cues, such as gestures and facial expressions, to understand the underlying message. Our skills are like a compass that helps us navigate through life, allowing us to make connections, sustain relationships, and reach our goals. Social skills are essential for success, whether you're having a meaningful chat with a friend or giving an important presentation at work.

However, these skills are not something we are born with; they develop as we grow and are influenced by our experiences, upbringing, and the various interactions we have throughout our lives. Every interaction,
whether on the playground, in the classroom, at family dinners, or on busy city streets, teaches us about communication and empathy.

Socialization is where we develop these skills, it's like a classroom where we learn how to connect with others. By being placed in different sorts of social situation, we can learn how to adjust, understand the atmosphere, and deal with the changing dynamics of human interaction. Social skills are like the threads in a tapestry of life, binding us together and keeping our communities strong. Tools for survival are more than just objects; they represent the core of human existence.

A socially skilled individual is able to empathetically relate to the situations of other people and in the act of doing so, is able to provide those people with a reason to cooperate. The concept of social skill is rooted in a theory called symbolic interactionism, which explores how humans interact with one another. This theory explores the complex interactions we have with others, the symbols we use to communicate, and the deep meaning we give to these symbols in our daily lives. It has been worked upon by sociologists Herbert Mead (1934), Irving Goffman (1959), and Herbert Blumer (1969) who coined the term. An individual’s conceptions about themselves are highly shaped by their interactions with others. When interacting, people try to create a positive sense of self by engaging in producing meaning for themselves and others. Identities refer to sets of meanings that actors have that define who they are and what they want in a particular situation.

They can be broken down into following components -

1. **Assertiveness** - on a simple level involves introducing oneself to others, and how well one is able to initiate social interaction. Hence expressing one's own needs, thoughts, and feelings in a direct and respectful manner, while also respecting the rights and opinions of others and resolving conflicts in a constructive manner.

2. **Empathy** - ability to put oneself in the shoes of others to gather their perspective on things. It generally includes being able to recognize and validate others' emotions, showing compassion and understand their thoughts and feelings.

3. **Pragmatics** is an area of social communication which focuses on goal-consistent language use in social contexts. It involves a set of rules that individuals follow when using language in conversation and other social settings.

4. **Self-Management Skills**: This includes self-awareness, confidence and resilience that allows an individual to understand one's strengths, weaknesses, values, and beliefs, and how they influence behaviour. As well as being able to bounce back from any failures in social interactions.

5. **Conflict Resolution**: being able to work collaboratively with others by identifying issues that might arise with others in a constructive manner. It involves negotiating to come up with acceptable solutions and avoid disagreement with others.

It can be difficult to connect with others and maintain strong relationships when you struggle with social skills. Feeling lonely or isolated is a possibility, and it could even contribute to mental health issues such as anxiety or depression among the most common disorders.
Intelligence

Intelligence is the ability to use knowledge to reason, make decisions, solve problems, learn quickly, and adapt to environmental changes. According to popular definitions given by Alfred Binet (1905) it is the ability to comprehend well, judge well and reason well. Wechsler explained that our innate ability allows us to navigate the world by using rational thinking, purposeful action, and effectively adapting to our surroundings. There is a lot of excitement in the field of intelligence research as scholars explore the complexities of defining intelligence. Every investigator has their own unique perspective, which highlights different aspects of intelligence as they strive to gain understanding.

Oldest attempts to conceptualise intellect can be traced back to 18th century, Faculty theory of Intelligence which stated that our intellect was a collection of different interdependent mind faculties such as reasoning, memory, imagination etc. These faculties could be developed through vigorous training. Later on, Binet in 19th century approached the concept as a subject of single, general factor also known as the “G-factor” which he defined after studying people’s results on test where students who performed well on one subject were likely to perform well in other subjects. Thus, the general factor is the common underlying in an individual’s corresponding abilities.

Measurement of Intelligence

Going back to the late 1800s, a time of great curiosity and exciting scientific exploration. Sir Francis Galton was inspired by Darwin’s groundbreaking observations to measure intelligence during this era. Galton was strongly influenced by the idea of eugenics. He thought that some traits of intelligence were more beneficial for evolution than others, and he considered speed to be a desirable attribute. Galton wanted to test his theories, so he came up with a new idea: he measured how long it took for people to react to sounds. Participants were focused on listening carefully, ready to identify the source of each sound as fast as they could. Galton thought that the speed of their responses was connected to how intelligent they were. However, this approach, although creative, did not stand the test of time and eventually became less well-known.

Fast forwarding to the early 20th century when Alfred Binet and Theodore Simon took over the task of intelligence assessment. They did groundbreaking work that led to the development of the Binet-Simon intelligence test, which was created to help teachers identify students who may have special needs. Galton’s approach was different from the Binet-Simon test, which went further by evaluating cognitive skills like problem-solving, attention, and memory.

In 1912, a significant development occurred when the German psychologist William Stern introduced the Intelligence Quotient, or IQ. Stern came up with a clever definition of IQ as the ratio of mental age to chronological age, a concept that would change intelligence testing. Stern found a clever way to make it easier to understand intelligence by multiplying the ratio by 100, which removes the decimal point.

These important moments in the history of measuring intelligence show humanity's ongoing desire to understand the complexities of the mind. Galton conducted bold experiments, Binet and Simon took a caring
approach, and Stern came up with an elegant formulation. Each chapter in this story shows our lasting interest in the intricacies of human intelligence.

RESEARCH METHODOLOGY

Aim

To study the impact of online gaming on social skills and intelligence level among young adults

Objective

To advance the understanding of the intricate relationships that exist between social skills, IQ, and online gaming; to provide useful advice for parents, teachers, legislators, and game creators on how to encourage young adults to develop healthy gaming habits and cognitive abilities.

Research Design

A correlational study design was employed to assess the impact of adult’s gaming habits on their social functioning and intelligence level. The study included a sample of 81 young adult as participants, mostly college students belonging to the age group of 18 to 23 years, who regularly engage in online gaming activities. The research collected data on social functioning and intelligence level of the participants by administering Social Functioning questionnaire and Raven’s Progressive Matrices test.

Hypothesis

There will be a significant relationship between emotional intelligence & self-esteem in young adults.
There will be a significant difference in emotional intelligence between male & female young adults.
There will be a significant difference in self-esteem between male & female young adults.

Variables

Social skills- Interacting and communicating effectively with others in social situations is what social skills are all about. The skills mentioned are active listening, empathy, cooperation, assertiveness, and conflict resolution. Having good social skills is crucial for building and sustaining relationships, understanding social norms and expectations, and thriving in social settings.

Intelligence level - Understanding intelligence involves the capacity to learn, comprehend, think, and adjust to unfamiliar circumstances. This includes a variety of cognitive skills such as problem-solving, logical reasoning, memory, and abstract thinking. Standardized tests, like IQ tests, are commonly used to assess intelligence by assigning a numerical score that reflects a person's cognitive skills compared to others in the same age range.

Sampling

The research sample was collected in the National Capital Region (NCR), specifically in Noida, Delhi, and Ghaziabad. We used a purposive sampling method to target individuals aged between 18 to 23 years old who participate in online gaming or have it as one of their hobbies. Data was collected by directly approaching college students were directly approached in this specific group who are known to participate in online
gaming activities. Afterwards, snowball sampling technique was used to increase the number of participants in the sample. Individuals with certain characteristics that we had identified during the initial selection process were hence specifically targeted.

**Scale Description**

**Social Functioning Questionnaire**-The SFQ consists of a total of eight items and the subject can score between a range of 0 to 24 on this self-assessment tool. It is a semi-structured interview made from Social Functioning Scale that is frequently utilized with individuals who do not have psychosis. The SFS demonstrates remarkable reliability in test-retest and inter-rater scenarios, along with strong construct validity. The SFQ was created to address the need for a rapid evaluation of perceived social functioning.

**Raven's Progressive Matrices**- RPM is a popular non-verbal assessment tool that is commonly utilized for assessing general human intelligence and abstract reasoning abilities. It serves as a way to measure fluid intelligence independently of language skills. It is commonly given to people of all ages, from young kids to older adults. The test includes 60 multiple-choice questions organized by difficulty level to evaluate the test taker's reasoning skills, reflecting Spearman's general intelligence (referred to as "g"). Created by John C. Raven in 1936, each question in the test asks the participant to find the missing piece needed to finish a pattern.

**Procedure**

The tests were administered on 81 young adults, aged 18-23 years old at the time of the administration. The mode of test administration was Google Forms. All participants were explained the basic premise of the study & the meaning of the variables. Further, they were briefed about the confidentiality of the process & their rights as participants. Once the participants signed the consent form indicating their willingness to participate in the study, they were given the instructions to attempt The Social Functioning Questionnaire & The Raven’s Progressive Matrices. All participants filled the forms as directed & the responses were then scored & analysed with further statistical treatments.

**Statistical Analysis**

The data gathered was quantitatively analysed using the following statistical techniques:

1. Mean & Standard Deviation,
2. Pearson’s Product-Moment Correlation,
3. Independent t-test (Welch’s t-test).
RESULTS

Table 1
Descriptive Statistics & Correlations for Study Variables

<table>
<thead>
<tr>
<th>Correlations</th>
<th>RSPM</th>
<th>SOCIALF</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSPM Pearson Correlation</td>
<td>1</td>
<td>-0.239*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.032</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>SOCIALF Pearson Correlation</td>
<td>-0.239*</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.032</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>81</td>
<td>81</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

Table 1 indicates the descriptive statistics (mean & standard deviation) for the study variables as well as the correlation between them. Results according to Pearson correlation coefficient reveal a negative correlation of is -0.239, with a p-value of 0.032.

Table 2
Differences in Study Variables between Male & Female Young Adults

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>GENDER</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSPM</td>
<td>Male</td>
<td>44</td>
<td>42.7273</td>
<td>8.6303</td>
<td>1.30107</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>37</td>
<td>48.0541</td>
<td>7.39349</td>
<td>1.21548</td>
</tr>
<tr>
<td>SOCIALFUNCTIONING</td>
<td>Male</td>
<td>44</td>
<td>41.4545</td>
<td>9.08987</td>
<td>1.37035</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>37</td>
<td>45.1892</td>
<td>10.1976</td>
<td>1.67547</td>
</tr>
</tbody>
</table>

Table 2 indicates the mean & standard deviation values for male young adults (N= 44) & female young adults (N=38), as well as the results of t tests comparing the sample means between the two groups for the variables of the study. The results indicate that there are variations between genders in terms of social functioning and cognitive performance within the group. Females tend to display higher levels of social functioning and perform better on the cognitive task compared to males.
DISCUSSION

Embarking on this research was like diving into the deep, fascinating world of game psychology and its impact on players. The study aimed to explore the impact of online gaming on social skills and intelligence level among young adults. In specific, the study intended to investigate the link between social skills and intelligence level in young adults who engage in gaming activities while surfing internet, along with exploring the existence of differences based on gender within both the study variables.

The group being examined comprised of 81 energetic undergraduate students, ranging in age from 18 to 23 years, who came from the lively streets of Delhi-NCR. Out of the total, there were 44 young men and 37 young women, each with their own unique blend of aspirations and experiences. In order to explore their social dynamics and cognitive abilities, we concentrated on two main areas: social functioning, which was assessed using the Social Functioning Questionnaire (SFQ), and intelligence level, which was evaluated using the Raven's Standard Progressive Matrices (RSPM).

We discovered a fascinating correlation between these variables. The analysis has revealed a potential link between cognitive performance and social interactions ($r = -0.239$, $p = 0.032$), indicating an inverse relationship between scores on the cognitive task (Raven's Standard Progressive Matrices) and scores on social functioning. From this it can be inferred that as performance on the cognitive task increases, social functioning tends to decrease, and vice versa. There is a delicate balance between excelling in cognitive tasks and being adept at social interactions.

It resembles a seesaw: when individuals dedicate significant time and effort to intellectual pursuits, they may have less time and energy available to cultivate robust social skills. Conversely, an individual who excels in socializing may allocate less time to cognitive tasks. There is no superiority between the two, only a balance that must be struck.

Grasping this equilibrium is essential, as it illuminates how various individuals place importance on their time and skills. It's important to note that cognitive ability and social skill are not mutually exclusive. On the contrary, it's a fascinating interplay that differs from individual to individual, showcasing the distinct ways in which cognitive abilities and social functioning intertwine within our group.
Upon closer analysis, intriguing findings regarding gender disparities were revealed by performing thorough analysis of the social functioning and cognitive performance of our participants, revealing interesting gender differences within our sample. In terms of social functioning, males had an average score of 41.4545, with a standard deviation of 9.08987. On the other hand, females had a higher average score of 45.1892, although their standard deviation was slightly larger at 10.19760. These findings suggest that, on average, females exhibit greater social functioning than males.

In terms of cognitive performance, males obtained an average score of 42.7273, with a standard deviation of 8.63030. On the other hand, females demonstrated superior performance compared to males, achieving a higher mean score of 48.0541 and a smaller standard deviation of 7.39349. Based on our sample, it appears that females tend to outperform males on cognitive tasks, as measured by the RSPM.

In addition, the standard error of the mean values offers valuable insights into the variability of our findings. It is worth noting that there was a slightly higher level of variability in the scores of females compared to males for both social functioning and RSPM scores. This was evident from the slightly larger standard error of the mean.

Hence female participants demonstrated superior social functioning in comparison to their male counterparts, indicating a talent for navigating interpersonal interactions and fostering connections. In addition, their cognitive performance on the RSPM task was exceptional, demonstrating their ability in abstract reasoning and problem-solving, which are crucial skills for overcoming challenges in the digital world.

**CONCLUSION**

Our findings highlight notable disparities in social functioning and cognitive performance among the participants, based on gender. Our sample indicates that females generally demonstrate stronger social functioning and cognitive performance compared to males. The findings offer valuable insights into the dynamics of social interaction and cognitive abilities, emphasizing the significance of considering gender nuances in our understanding of these phenomena.

As the exploration of game psychology and its impact on the lives of young adults comes to a close, a multitude of captivating revelations have been discovered regarding the intricate relationship between online gaming, social aptitude, and cognitive capabilities. The study aimed to explore how gaming activities affect social functioning and intelligence, as well as investigate gender differences in these areas.

The correlation analysis uncovered a noteworthy connection between cognitive performance and social interactions, highlighting the intricate equilibrium that exists. Engaging in this dance requires finding a balance between cognitive tasks and social functioning. The author emphasizes the significance of striking a balance between intellectual endeavors and personal relationships, recognizing that both aspects are mutually beneficial and indispensable.
In addition, the analysis of gender disparities within the sample provided valuable insights into the subtle distinctions between males and females. Women took the lead, demonstrating exceptional social skills and cognitive abilities in comparison to men. Their impressive ability to navigate social interactions and excel in cognitive tasks highlights the complex influence of gender dynamics on social skills and cognitive abilities.

As the study ends, it provides valuable insights into the complex dynamics of online gaming and how it affects young adults. Through unravelling the intricacies of social interaction and cognitive abilities in this particular setting, the aim is to establish a foundation for customized interventions and support systems that enable people to flourish in both online and offline environments. Looking ahead, there is a clear need to delve deeper into these areas, as researchers strive to understand the complex factors that influence the lives of young adults in the digital age.

REFERENCES


Kwon, H. (2019). Gaming is bad for society. Online gaming, social skills, and civic and political perceptions among adolescents


