

# The role of computer games and their influence on society

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**Abstract**—Computer games and computer gamers have been a large part of our society for a long time. The aspect of involving oneself in a virtual world of action, adventure and excitement has allured everyone to try out computer games at least once in their lifetime. Each person associates themselves to the world of gaming on different levels – ranging from casual mobile gamer to the hardcore gamer with the Alienware laptop. In this era of modern technology, the accessibility and availability of games have rapidly increased. This correspondingly has its effect on the society – influencing the way we think and the way we interact with one another. In this paper, we explore the many ways in which computer gaming influences the society while comparing and contrasting its positive and negative aspects.

## I. INTRODUCTION

Computer and video games refer to the games played on computers or gaming consoles[1], where players interact with virtual objects displayed on a screen using gaming controllers or computer keyboards and mouse. With the rise in computing power in smartphones, the inclusion of smartphone based games to the world of gaming is a highly debated topic in the gaming community. Number of players in a game may range from one (in case of single player games) to thousands (online multiplayer games). Gaming culture has seen a rapid increase in the past decade, especially owing to the rise in popularity of online multiplayer gaming model. The technological advancement in visual effects, graphics and computing power of systems have increased the standards and expectations from games, to an extent that they are comparable to visual effects in movies.

## II. GAMING CULTURE AND ITS IMPACT

### A. Sociological impact

From the early days, gaming has had a positive influence in bringing people together. The prospect of sharing a journey together in a virtual world intrigues everyone. A survey[2] conducted by an analytical company, Qutee showed that 40% of the survey population marked that gaming improved their emotional well-being. Additionally, two-thirds of gamers claim that they met up to 5 friends while playing games. In most of the cases, the reason behind popularity of games is its social aspect.

### B. Physiological impact

Among children and adolescents, computer games are found to increase cognitive skills, mainly boosting their hand-eye coordination[3][4]. Engaging in gaming requires

complex information processing and generate strong emotions, leading to skill acquisition and attitude & behavior change. The long existing source of worry among parents regarding computer games was the lack of exercise to their children. However, since the release of technology like Microsoft's Kinect and Nintendo's Wii, games are now able to deliver a more physically engaging experience, thereby essentially making up for its one great drawback[5].

### C. Impact on academics and education

A nationally representative study of video game play among adolescents in the United States showed that 97% of adolescents aged 12 to 17 years play computer, web, and portable or console video games[6]. In terms of frequency, 31% of adolescents play video games every day and another 21% play games 3 to 5 days a week[7]. A commonly discussed topic among parents having children in the age group of 6 to 16 is the effect of gaming on their education. However, an overlooked fact about involving oneself in computer games is the fact that video games involve clearly defined rules, challenge, and complexity[8]. This requires the participants learning new skills and solutions, retaining them to apply future challenges or problems.[9][10]

Different genres of video games (e.g., shooting, role playing) have varying qualities and amounts of problem solving, challenge, and control[11][12]. Thus we expect to see a greater relationship between liking certain genres and GPA, Conscientiousness and Openness[13][14]. For example, role playing games (RPGs), platformer, and puzzle games typically require cognitive effort and exploit the principle of challenge as compared to other game genres[15][16][17].

### D. Impact of violence in computer games

Violent video games have previously been identified to be the most popular video games played by consumers[18]. Even though research has shown no correlation between real-life aggression being related to violent games[19][20], over the years, the reputation of gaming has seen take damage due to false claims from media stating violence and other crimes having its roots in computer games. A widely accepted model for understanding media effects, the General Aggression Model[21] (GAM) posits that cognition, affect and arousal mediate an individual's perception of a situation. With the data from studies conducted till now, it is inconclusive whether violence in computer games can be considered a stimulant for aggressive behavior among individuals.

### III. CONCLUSIONS

To conclude, with the rapidly developing technology, gaming culture has seen a surge in its growth and can be expected to continue its growth pace over the years. The studies conducted on impact of gaming on various groups, including but not limited to children, adolescents and adults have shown the benefits on an individual's sense of well-being, his/her ability in socializing, cognition and reasoning skills. The speculation of stimulating aggressive behavior in individuals from violence in gaming have not been supported with relevant results from studies conducted on the topic. However, computer games are now proving to be effective in classrooms to motivate pre-adolescent students to engage and develop their observational, reasoning and cognitive skills. With the advent of VR and AR gaming, computer games are now able to deliver a more physically engaging experience to the players. Though few researches have attempted at understanding correlation between negative impacts of computer games on society, it is hoped that future researches will explore its more pragmatic applications.

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