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Research Article

A Public Health Perspective on the Necessity of Regulation for the Video Gaming Industry

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Abstract

Video gaming is a widely participated and normalized activity in most global jurisdictions with its engagement continuing to increase. Currently, global gaming operators remain largely self-regulated with minimal government regulation. Children and youth have been found to be among those most vulnerable to the harms associated with gaming as technological advances make games more engaging, and gaming companies improve their strategies to increase microtransactions. The Socio-Ecological Model demonstrates how the harms associated with gaming go beyond individual consumers and are experienced on a community level. To address this population health issue, a Framework for Action was developed to propose an action strategy. This framework emphasizes the need for government regulation for the video gaming industry to protect individuals and communities, while also adopting downstream protective measures.

Keywords: Children; Gaming industry; Government regulation; Public health policy; Video gaming; Youth

Introduction

Video gaming has dramatically increased in popularity since the appearance of commercialized electronic games in the 1960s [1]. This increase is largely due to technological advances associated with the Internet, smartphones, online gaming, and more interactional and sophisticated games. The availability and accessibility of the use of computer technology has changed the world of leisure activities. Estimates suggest there were 2.69 billion active video gamers in 2020 [2]. While gaming is popular amongst individuals of all ages, there is abundant evidence that over 90% of children and adolescents in the U.S. play video games [3,4]. More specifically, youth aged 15-19 are more likely to spend longer periods gaming (both on weekdays and weekends) than any other age group [3].

The Coronavirus (COVID-19) pandemic significantly disrupted normal activities globally. Stay-at-home mandates and school closures dramatically increased the use of digital entertainment, particularly in the area of video game streaming [5]. A U.S. telecommunications provider, Verizon, reported a 75% increase in online video gaming activity, while Italy reported a 70% increase in Fortnight gaming-related Internet traffic during the initial stay-at-home order during the pandemic [6]. Such activity was encouraged when the World Health Organization partnered with the major gaming companies Blizzard and Riot Games to launch the #PlayApartTogether campaign in March 2020. This campaign was aimed at encouraging gamers to connect with friends online while maintaining public health guidance to reduce the spread of COVID-19 [7].

Video gaming has become widely normalized as a socially acceptable leisure activity worldwide. They can provide benefits to consumers by having the capability of satisfying psychological needs, including identity expression, a sense of mastery and achievement, escaping from boredom [8], and reducing loneliness [9]. With the presence of online multiplayer games and Massive Multiplayer Online Role-Playing Games, gaming may provide a forum for discussions among young people while encouraging competition. Despite positive attributes associated with gaming, children and youth can experience negative consequences as a result of excessive gaming. Gaming can induce psychological detachment, sleep deprivation, eating and nutritional problems, disrupt family relationships, promote a lack of personal and social interaction, enhance depression and anxiety, and result in interpersonal difficulties [10-13]. Many of the risks posed by video gaming are disproportionately experienced by youth [13,14]. As video games become more engaging and interactional with technological advancements, it is paramount that preventative measures be implemented to protect young consumers form experiencing gaming-related harms at present and in the future.

This paper provides a public health perspective on recognizing the harms associated with gaming and its greater impact on society. Due to the general lack of government regulation for the gaming industry in many global jurisdictions, commentary on the necessity for such action and its benefits to society is imperative. This paper recommends using the Socio-Ecological Model in combination with a Framework for Action to reduce potential harms to consumers, families and peers and society at large. The Framework for Action emphasizes the necessity of government regulation for the gaming industry, in addition to supportive downstream protective measures.

The Socio-Ecological Model

The Socio-Ecological Model highlights the levels of relationships within a society and their influence on one another. A society is made up of individuals with unique and independent thoughts, behaviors and attitudes. These individuals and their relationships have a great influence on larger parts of society such as the organizations within it, the relationships between organizations, and shaping societal and

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cultural norms and values [15] (Figure 1). Individual challenges do not only cause individual harm but instead, there are many layers of impact significant to society in general. This must be considered when exposing populations to potentially harmful products, such as video games.

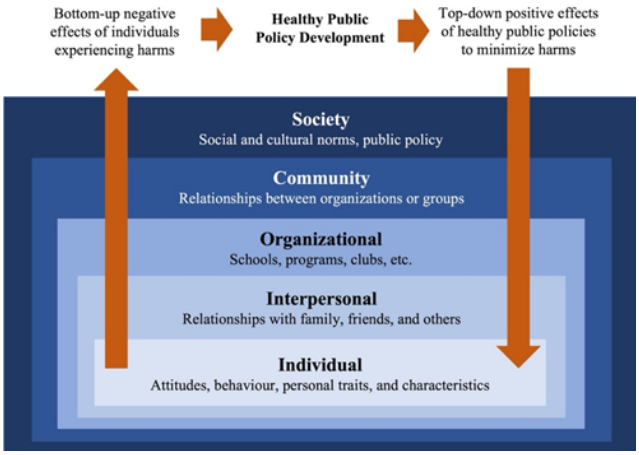

Figure 1: The Socio-Ecological Model, highlighting the dependency between the layers of society and the impact of effective health public policy.

Research suggests that Internet gaming addiction has similar neuronal and biochemical similarities to substance-related and behavioral (i.e., gambling) addictions [12]. Despite the harms associated with video gaming on a community level being an emerging area of research, there is a wealth of research and knowledge that demonstrate how the harms associated with smoking, alcohol, cannabis, and gambling extend beyond the individual. These products serve as a reference to demonstrate how individual harm from substance-related and behavioral addictions or dependencies cannot be discounted in the context of population-level interventions.

In Aura and colleagues' [16] literature review, they found that ecological, material, and social circumstances influenced health-related behavior. Unsurprisingly, peer smoking was the most important predictor of smoking behaviors among youth, while supportive parenting and control reduced the risk of adolescent smoking or alcohol use. As well, Ewald and colleagues [17] reported that substance use increased when families or role models used substances themselves or supported their use. They also noted that marijuana's social acceptability has increased over time and adolescents' perception of the potential harms associated with its use decreased. Where individuals work, live, socialize, and play impacts what they are exposed to, how socially accepted exposures are, and how they may engage with these exposures [17]. A study by Gruenewald and colleagues [18] found that cities with greater densities of alcohol outlets (e.g., bars) had higher levels of alcohol use, translating broadly to the belief that the greater accessibility of a product can be associated with greater consumption. This is not unique to alcohol; research shows similar associations with spatial gambling availability and engaging in gambling activities [19,20]. As technology rapidly advances, the areas where we work, live, socialize and play is shifting to online platforms. Fostering supportive and safe online environments is paramount to population health, just as it is when considering safe neighborhoods and schools for children and youth to thrive.

The Socio-Ecological Model articulates the dynamic and interconnected nature of society. When products become more widely accepted, the potential harms that accompany them may result in greater burdens on communities. Healthy public policy has been used to regulate harmful products including alcohol, tobacco, cannabis, and gambling by imposing measures such as age restrictions to minimize harm. In video games, some countries have regulated the sale and use of loot boxes [21,22], and in 2019 a U.S. senator introduced a bill to regulate certain pay-to-win microtransactions [23]. Despite this action, the video gaming space continues to rapidly evolve and requires greater consideration and action to regulate a profit-driven industry that aims to maximize microtransactions and player engagement. Healthy public policy focused on minimizing the harms associated with gaming is the best defense to protect consumers and communities.

A Framework for Action

Strategic action to regulate the gaming industry is necessary to promote healthy and thriving communities around the globe. The Framework for Action (Figure 2) was developed to emphasize the greater reach of healthy public policy compared to downstream measures, but also to note that these downstream measures are necessary to support the spectrum of societal needs. The framework, articulated by Messerlian and colleagues [24], focused on understanding and addressing the negative impact of youth experiencing gambling-related harms.

'Internet Gaming Disorder' and 'Gaming Disorder' are included in the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) and the International Classification of Diseases (ICD-11), respectively [25,26]. These are behavioral disorders, similar to Gambling Disorder [27], which allows for a gambling-related framework to be adapted to fit the context of video gaming. It is worth noting that the inclusion of gaming disorder in the DSM-5 and ICD-11 is under debate among researchers and health professions [25]. However, community and policy-level action should be considered to ensure that disordered and problematic use of video games is minimized as a significant number of children and youth video game as a hobby [3,4] and there are consumer risks with a self-regulated, rapidly changing industry.

Health promotion action areas

Providing individuals with the capacity and resources to develop personal skills offers the ability to gain control over their health and make informed choices. This is largely achieved by providing education to educational, professional, commercial, or voluntary bodies within both society and institutions [28]. This may allow for healthier individuals and better-informed bodies.

Community action is centered around understanding and meeting the unique needs of a community. It involves determining priorities, plans, and methods of implementation to improve community-level health [28]. Community histories should be considered when developing interventions and protective measures to maximize their effectiveness in a local context [24].

Creating supportive environments by fostering safe, stimulating, and enjoyable spaces is paramount to reducing the harms associated with gaming [28]. This can be achieved by creating spaces conducive to the needs of the individual, and are designed to meet their degree of life skills and developmental abilities [24].

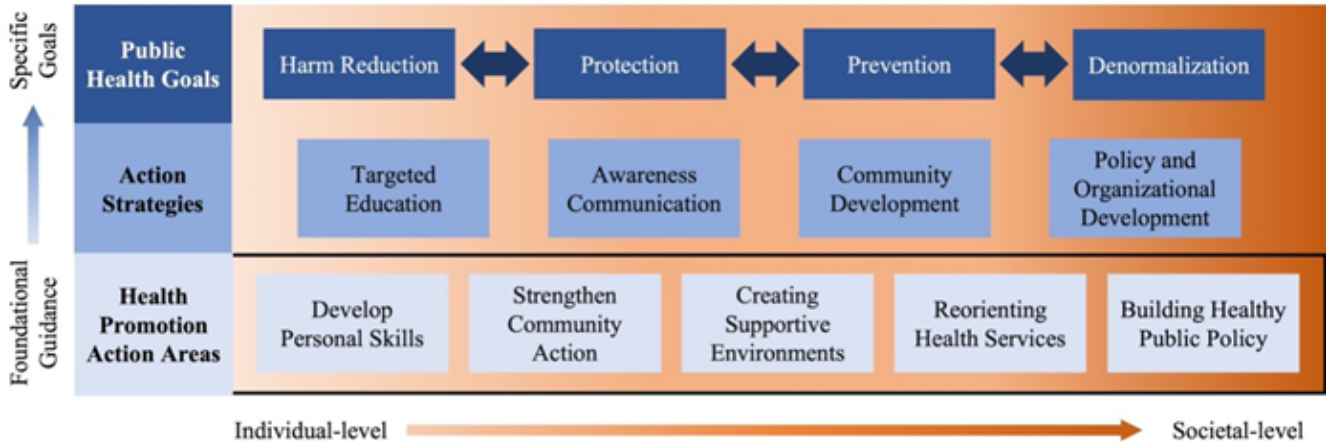

Figure 2: A framework for reducing gaming-related harm from a public health perspective (adapted from Messerlian et al., [24]).

Reorienting health services may emphasize moving beyond clinical and curative care, and extend to health promotion in a broader community context by creating collaborative channels with social, political, economic, and physical environments [28]. Organizational policies should also require specific training and education on patient support resources and early detection of gambling-related harm to allow for early intervention [24].

Healthy public policy has the greatest reach, as everyone within a community may be directly or indirectly affected by a policy in the present or future. The objective is for government regulation and oversight, legislation, and fiscal measures to make the healthier option the easier option for individuals and communities [24,28].

Action strategies

Providing targeted education to concerned individuals within a community will likely reduce the harms associated with gaming, especially among children and youth. Targeting influential and significant individuals (e.g., parents, educators, program coordinators and health professionals) can help ensure that video gamers are minimally exposed to the harmful components of games and increase the likelihood of early identification when experiencing related harms. Creating general community-level awareness of the harms associated with gaming for the broader community is necessary to increase knowledge of the associated risks, costs and consequences. Increasing awareness can aid in influencing individual actions, but also encourage advocacy for healthy public policy. Awareness communication is paramount to creating the political will to put topics, such as regulating the gaming industry, on the public health agenda [24].

Community development allows communities to define their health needs and priorities and articulate how these needs can be met in a local context. This is particularly a challenge with video games as such games are relatively standardized nationwide and may have few variations between or within countries. However, the approaches to minimizing associated harms through downstream strategies can be more easily tailored on a community level.

Creating governmental or organizational policies to protect video game consumers, their friends and families, and the broader community from the harms associated with video gaming is a cost-effective and socially responsible intervention. Policy development may influence social norms by creating barriers to risky or potentially harmful behaviors and create a later age of onset of participating in such activities [24].

Public health goals

Harm reduction aims to prevent those who already engage in risky activities related to gaming from experiencing related harms. Harm reduction/harm minimization is on a continuum that ranges from personal coping strategies to policy that minimizes the pre-existing risks associated with gaming-related activity. Population-level protection from the harms associated with gaming is largely the role of the government, industry, and public health to ensure that video games are not causing consumer's greater harm. Protection includes restricting access, availability, and advertising of games that are inappropriate for certain audiences. For example, having rigid rating systems for video games and putting an emphasis on parents and retailers to abide by the ratings protects underaged children and youth from inappropriate content. Additionally, the industry should incorporate social responsibility measures that are consistent with the ethical principles of "fairness, transparency and accountability" as established by regulators across jurisdictions [29].

Prevention can be on a primary, secondary, or tertiary level. Prevention is in part achieved through educating relevant stakeholders on the harms associated with video games in a relevant context, and educating the broader community through general awareness campaigns [24]. For example, evidence suggests that parents of teenagers between the ages of 13 and 18 viewed excessive video game playing as relatively unimportant compared with other adolescent risky behaviors such as substance use, alcohol consumption and cigarette smoking [30]. Creating awareness that these risks are more relevant than the parents realize maybe a key step in preventing subsequent harm. Additionally, Piggott and colleagues [31] reported that individuals who video game excessively were more likely to be both a victim and a perpetrator of bullying. Early intervention and education, in combination with other protective policy measures for mental health disorders in general, may prevent this association between excessive gaming and bullying. Increasing such knowledge among decision-makers may motivate them to regulate the gaming industry.

The denormalization of excessive gaming and engagement in risky gaming behavior is an important public health goal with the greatest reach when reducing community-level harms. The most notable example of denormalization of a large industry product in North America was seen with tobacco [24] where marketing strategies highlighted the risks that accompany the use of tobacco products, in addition to other methods to reduce their ease of accessibility. Denormalization in the context of harmful video gaming behaviors may occur, in part, through the denormalization of toxic player behaviours. "Trash talk" is currently present in games due to the lack of accountability on online platforms, and the anonymity of playing with strangers under a disguised character and name [32]. Denormalization of toxic behavior in online games could lead to a reduction of insults, profanity, hate speech, bullying, and sexual content, among others [32].

Another layer to denormalization is to challenge myths and misconceptions about the harms associated with gaming. For example, the industry has claimed that loot boxes are analogous to Kinder Eggs as a "surprise and delight" mechanism when opposing the claims that they are a mechanism of gambling [33]. Despite these claims, there is a growing number of young people engaging in loot box purchasing, which have been positively associated with experiencing gambling-related harms [34-37].

Targeted education, awareness communication, and community development are essential action strategies to work in support of policy and organizational development when minimizing the harms associated with video games. Such policies must emphasize protecting children and youth who are disproportionately impacted by the harms associated with excessive gaming. Technology and the gaming industry are advancing quickly, and governments must keep up. The Framework for Action may be used to understand the levels of interventions needed to address population-level gaming harms, with a primary focus on policy development and industry regulation.

Discussion

The harms associated with gaming are well defined and largely extend from the gamblification of games [34,38], the exposure to violence, crime, and other inappropriate content [39], and the toxicity that is oftentimes present in online games [32]. Internet Gaming Disorder and Gaming Disorder were recently added to the DSM-5 and ICD-11 [26], acknowledging that excessive gaming can result in significant harm to consumers. Responsible steps must be taken to minimize such harm. The gaming industry continues to be largely self-regulated, and we are being asked to trust the assumed moral and social responsibilities of the industry to protect consumers. This perspective, however, often clashes with the industry's profit-driven mentality.

Currently, the gaming industry often uses parental controls that can be overridden by tech-savvy children and sub-optimal rating systems as a primary harm reduction strategy, taking the responsibility off the industry and placing it onto consumers. Healthy public policy reverses this by legally shifting a high degree of the responsibility onto the industry to ensure the risks associated with their products are as limited as possible (often accompanied by governmental oversight).

There is an urgent need to regulate the gaming industry with the monetization of video games and creative industry strategies to sell its products to individuals. Major game developers, including Activision and Electronic Arts, created patents to use player data with the objective of selling more products [22] and/or keeping players engaged in the game for longer periods (U.S. Patent No. 9,789,406 and 10,807,004, respectively) [40-42]. These patents, along with other in-game features, incentivize players to play games for longer, more frequently, and spend greater amounts of money than they otherwise would have [34]. King and Delfabbro have referred to this concept as predatory monetization where microtransactions "may involve some elements of gambling and/or have other properties that encourage continuous player spending" [29]. They suggest that these schemes are a result of information asymmetry due to the abundance of information the industry has on consumers, and consumer not having the same degree of information on how these monetization schemes are arranged. Policy development may offer an opportunity to level this asymmetry by ensuring that the industry does not use player data to excessively drive profits.

Children and youth remain more susceptible to the potential harms associated with video game content that may cause future challenges [13,14,43]. Gaming is a widespread and normalized activity engaged in both independently and with friends or strangers. The gaming industry has a wealth of power, knowledge, and experience in engaging and selling its products to consumers. The extent to which the industry can excessively engage consumers needs to be regulated given the existing risks associated with gaming, especially for vulnerable populations. Gaming should be a public health priority. Healthy public policy through government-imposed industry regulation provides an effective first step to protecting consumers and society at large.

Conclusion

The Framework for Action, taken with the Socio-Ecological Model, and rationales for government-imposed regulations on the industry are justified in calls for immediate action to help protect consumers. The Framework for Action denotes the various levels of action required to protect and preserve population health as it relates to gaming and gaming-related harms. Effective government regulation, in conjunction with additional downstream protective measures, will allow for the prevention, protection and minimization of potential gaming harms. Governments, through regulation, should hold the gaming industry to a higher standard to protect consumers. We call upon governmental agencies to work with clinicians, researchers, and community groups to aid in developing effective harm minimization strategies incorporating responsible social policies.

Conflict of Interest

The authors have no relevant financial or non-financial interests to disclose.

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