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# Levelling Up Ethics: Video Game Design and Global Responsibility

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It is well established that play is critical for learning and development among young people, supporting the growth of motor, cognitive, and socio-emotional skills[1]. Importantly, play is not mundane nor relegated to the lives of children; it is functional for self-expression, cognition, and social relationships, with an extensive body of evidence highlighting that play is associated with increases in wellbeing throughout life[2]. Play comprises many different activities that are characterised through the experience of the player such as self-direction, intrinsic motivation, creativity, socialisation, and absorption – all of which meet basic human needs for autonomy, competence and relatedness. Therefore, it should be no surprise that the number of people actively involved in digital game playing (i.e. video games) has been growing at an exponential rate as individuals engage with their technology to support social, emotional, and mental wellbeing.

When video games were first popularised in the 1970s and 1980s, there was a niche market of consumers who predominantly played in arcades or on gaming consoles and PCs in their homes. As of 2024, however, the digital game industry had a user base of 2.6 billion gamers and by 2029, the number of global gamers is estimated to surpass 3 billion—representing over one-quarter of the entire global population[3]. The digital video game industry has changed substantially since it first began, especially with the rise of mobile games, online multiplayer gaming, and streaming services which have created entirely new customer segments and ways of engaging with video games. With the increasing importance and prevalence of video games in everyday life, it is crucial to consider how to ensure that their design is aligned to global development and sustainability efforts. Therefore, this brief explores risks and opportunities for ethical video game design as aligned to the Global Digital Compact (GDC), a comprehensive framework established by the United Nations and adopted in 2024 to govern digital technologies in order to ensure an open, safe, and inclusive digital future for all.

## Impacts of Digital Games

The first video game consoles and arcade games were developed in the early 1970s followed by PC games, hand-held gaming devices, and, more recently, by mobile games. As such, video games have been a part of life for over 40 years, with a major rise in popularity following the widespread adoption of Internet connected and mobile technologies. Throughout this time there have been ongoing debates about the impact of video games on physical and psychological well-being, predominantly focused on addiction and engagement with violent, misleading, or sexualised content – arguments that have only increased as games have become more realistic and immersive[4].

For instance, some researchers argue that playing violent games is associated with greater aggressive behaviour offline[5], but another body of research finds the associations are weak and controlling for issues such as complexity, competition, and time spent learning the game, effects tend to disappear[6,7]. Other debates concern "video game addiction", which refers to excessive and disordered gaming behaviour that has negative health effects similar to other forms of addiction. However, there is much contention concerning the practicality and validity of video gaming addiction as a diagnosable mental health disorder, as well as lack of consensus on symptoms and assessment[8]. Additionally, there remain ongoing concerns about sexual objectification and violence against women in video games and whether this is associated with behaviours and attitudes of players towards gender equality. Some research finds that sexualised game content does not affect players' well-being, levels of sexism or misogynistic attitudes and behaviours directly[6]. However, sexualisation within video games does undermine the experience of a large number of gamers, especially women, and can perpetuate or exacerbate existing gendered power dynamics[9].

All of these issues represent unclear or unresolved risks of video gaming, yet alongside these are a range of positive impacts and potential opportunities. Notably, storytelling aspects of video games can encourage moral reflection, foster empathy, and reduce stereotypes[10]. Further, research suggests that games can boost cognitive skills like decision-making, spatial awareness, as well as both general learning abilities and specific content such as maths and science[11]. Video games can also provide an environment for healthy social interactions, have a positive impact on mood and foster real-world psychosocial benefits. For instance, through multiplayer cooperation, nurturing collaboration skills and empathy, and for building intercultural awareness and understanding, all of which generate impacts extending beyond the virtual realm[10]. Research has also shown that co-playing video games can build social capital and reduce loneliness[12,13]. Furthermore, digital gaming communities provide opportunities to connect with and belong to a diverse community which has important implications for social identity (i.e., as a gamer) and is associated with increased self-esteem and social competence[14]. Finally, "serious games", or those that focus on training, teaching, or nudging users to act on real-world issues are both a means to educate about complex global problems (e.g., consent, climate change, safety), as well as a mechanism to encourage behaviour change and civic engagement[15,16].

## Ethical Game Design and the Global Digital Compact

The potential impacts of video games are closely linked to the design choices made by game developers. Certain game design approaches may promote negative impacts, such as those that reinforce stereotypes, sexualise women, or increase the likelihood of players engaging with toxic communities. In contrast, design choices prioritising representation, empathy, cooperation and learning may foster positive social and individual outcomes. Human-centred design for social good is crucial in ensuring that games have a net positive impact. By considering the needs and experiences of diverse players, designers can create games that not only entertain but also promote values like inclusion, respect for cultural differences, and the betterment of society. This may involve collaboration with subject matter experts, community engagement, and a deep understanding of the complex societal implications of game content and mechanics.

As the gaming industry continues to evolve and reach an expanding audience, incorporating core values and objectives from frameworks, guidelines, and agreements made by United Nations member states into game design presents an opportunity to harness the positive impacts of this influential medium. As such, we focus on alignment of ethical game design to the Global Digital Compact (GDC)[17], a component of the Pact for the Future aimed at addressing the lack of progress being made on the Sustainable Development Goals (SDGs) and creating a comprehensive framework to guide international cooperation and policy-making that was adopted by member states in September 2024. The GDC focuses on ensuring that digital technologies are used in ways that are inclusive, safe, and beneficial for all. In this brief, therefore, we will enquire how the design of video games should be implemented to foster a safe and secure digital space for players while protecting their autonomy, supporting inclusion through cooperation and critical thinking, and advance representation, inclusion and participation of marginalised populations.

## Design Choices for Ethical Game Design

### Design to Safeguard Gamers' Autonomy

Some game designs leverage sophisticated psychological techniques that potentially threaten player autonomy and well-being. Deceptive patterns, for example, are user interface designs that exploit cognitive biases and diminish self-control[18]. An example of this can be found in normalising microtransactions (i.e. in-game purchases that unlock specific features or gives the user special abilities, characters

or content) within game settings which can act to increase risky behaviours, condition unhealthy habits, or increase in-game spending among vulnerable populations, especially youth. Another example is loot boxes that mask randomised content in a game that players purchase using real or in-game currency. These have been argued to parallel gambling and are thought the potentially be related to compulsive or addictive online behaviour.

While game design has not been found to have definitive causal links to addictive behaviour, the WHO recognises that potential issues may arise for a small subset of gamers, emphasising harm related to mental wellness when balanced against enjoyment[19]. Beyond direct financial costs, engagement in video games poses challenges when it displaces other important life responsibilities consistently. If an individual's game time begins superseding occupational duties, social obligations, physical fitness activities, or self-care over an extended period, it could indicate that video game playing is becoming excessive or unhealthy for the individual. However, determining where a passionate hobby becomes a pathological state remains a nuanced discussion, as all leisure activities involve voluntary decisions aimed at relaxing and entertaining.

Rather than reactionary limitations on player autonomy to focus on the amount of time spent gaming, more constructive solutions may emerge through human-centred design and empathetic interventions. For example, AI-powered affective computing methods show promise for discreetly monitoring wellness indicators like mood, alertness, and stress response over gameplay sessions to identify at-risk users exhibiting tolerance reduction or activity replacement patterns[20]. With user consent, this type of monitoring could trigger tailored outreach that offers a balanced perspective and support resources rather than punitive restrictions.

Additional complexity arises when considering the dynamic interplay between players and AI systems in simulated social interaction within games, such as when interacting with AI-powered Non-Playable Characters (NPCS). As the "affective loop" framework suggests, these virtual constructs aim to continuously adapt responses to discreetly influence human emotion and prolong engagement through simulated interpersonal exchanges[21]. While enhancing immersion, the capacity for subtle manipulation raises important questions around transparency, informed consent, and ongoing ownership over one's psychological experience within virtual worlds. Furthermore, because AI system embedded within gaming contexts can simulate complex systems and interactions, this may allow players room for safe personal and interpersonal experimentation in a virtual environment. A compassionate and nuanced approach seems prudent to minimise potential harm while respecting individual autonomy.

## Design for Critical Thinking and Cooperation

Thoughtfully crafted storytelling with morally complex dilemmas can cultivate ethical and empathetic outlooks in players. By reflecting the grey-area challenges of real life, such narratives encourage players to weigh multiple perspectives on issues like equality, economic mobility, or the environment[22,23]. Facing difficult choices alongside realistic, multi-faceted characters makes these struggles feel grounded and relevant, reinforcing how decisions reverberate beyond the individual. When done respectfully, reflective storytelling within video games fosters open-minded thinking and strengthens values like understanding, justice, and non-violence. Rather than delivering didactic messages, these narratives organically shape social perspectives through immersive, relatable experiences. Games that present dilemmas without clear-cut answers challenge players to consider differing viewpoints, fostering a mindset of empathy and critical reflection that extends beyond gameplay.

Similarly, multiplayer interactions influence player development and relationships in meaningful ways. Cooperative mechanics, rather than competitive structures alone, show promise for cultivating perspective-taking, effective communication, and conflict resolution skills applicable in real life[24]. Through teamwork and shared objectives, players learn to navigate group dynamics, balance individual strengths and weaknesses, and develop trust over time. Cooperation mirrors real-world community-building by encouraging mutual support, coordination, and a sense of collective responsibility. While competition provides variety and motivation, prioritising collaborative mechanics ensures broader access to these prosocial benefits. Games designed around cooperation reinforce solidarity, dignity, and problem-solving over a purely individualistic mindset, fostering values that can influence civic participation and social cohesion beyond virtual spaces[25].

## Design for Inclusion and Representation

### Gender & Freedom from Harm

Video games have the potential to promote diversity and inclusivity, yet concerns remain regarding the depiction of gender, especially the sexualisation of female characters. The portrayal of female avatars and the inclusion of virtual violence against women raises questions about their potential impact on players' attitudes. Objectification theory suggests that exposure to such media can reinforce self-objectification in women, shaping how they view themselves and other women[26]. However, empirical findings related to video games remain mixed. Studies indicate that while self-objectification can contribute to cultural norms of sexualisation, exposure to sexualised avatars does not consistently result in increased body dissatisfaction or aggression towards women[27].

Concerns about video games fostering misogynistic attitudes have also been explored through research on the effects of sexual objectification and virtual violence. While some studies suggest that exposure may reinforce negative stereotypes [28,29], others indicate a more nuanced relationship. Beck and Rose[30] found that participants playing Grand Theft Auto did not immediately exhibit increased acceptance of rape myths compared to a control group, and over time their acceptance of such myths decreased. Similarly, a meta-analysis by Ferguson and colleagues[31] found no substantial evidence linking sexualised game content to sexist or misogynistic attitudes. These findings challenge the assumption that violent or sexualised media necessarily translate to negative real-world behaviours.

While debates continue regarding potential harm, representation remains an important consideration. Women, along with other underrepresented groups, deserve to see themselves authentically reflected in a variety of roles rather than as passive or hypersexualised figures. Ensuring diverse, multidimensional portrayals helps foster inclusivity in gaming spaces and contributes to a broader cultural shift towards gender equity in media. As video games evolve, developers must take responsibility for how they depict gender, striking a balance between creative freedom and ethical storytelling.

### Cultural Representation and Participation

Beyond gender, cultural representation in video games plays a crucial role in shaping perceptions of diverse identities and histories. Games can act as a platform for cultural exchange and appreciation, yet they also risk misrepresentation or appropriation, leading to issues of nonrecognition, misrecognition, and exploitation[32]. While some research has argued that harmful cases of cultural appropriation in games is rare[33], respectful and authentic representation of diversity in video games remains a significant issue. Developers and designer must consider how cultural elements—such as architecture, language, and traditions—are integrated to ensure meaningful portrayals of cultural groups[34].

Some games set positive examples of cultural representation by embedding authentic cultural heritage into their narratives. Nishan Shaman, a music-based game, incorporates Manchu shamanic legends to introduce players to an underrepresented ethnic tradition engagingly and respectfully[35]. However, achieving cultural authenticity requires more than surface-level inclusion. Co-design practices, involving direct collaboration with cultural communities and heritage professionals, have proven effective in contexts such as child protection, dementia care, and location-based cultural heritage games[36]. Involving community members ensures accuracy and fosters deeper engagement with cultural narratives beyond tokenistic representation. Research suggests that video games can actively shape cultural literacy, increasing awareness of different traditions and geopolitical contexts[37]. Games designed with educational intent, such as Chuzme, demonstrate how cultural literacy can reduce bias and enhance empathy, improving communication between diverse social groups[38]. However, this potential is only fully realised when designers and developers actively engage with the cultures they depict, avoiding the pitfalls of stereotyping, tokenism, or commercial exploitation.

As digital video gaming continues to grow as a global medium, developers must recognise their influence in shaping cultural perceptions. Thoughtful representation strengthens intercultural understanding and fosters inclusivity, ensuring diverse players see their histories, identities, and experiences meaningfully reflected in virtual worlds and allowing those who may not have other opportunities for intercultural contact to connect with diverse cultural groups. By prioritising authenticity and participation, games can move beyond entertainment to serve as tools for cultural connection and education.

## Conclusion

The Global Digital Compact (GDC) is a guiding document adopted by UN member states that highlights the urgent need to harness digital technologies for the benefit of all. Specifically, the importance of national and international governance efforts to prevent harm and misuse are underscored and this is coupled with a strong call to action for digital technologies to reflect universal human values and human rights. Notably, making the online space open and safe for all, particularly women, children, and minority groups, is a foundational aspect of the GDC. To create safe spaces online the GDC suggests that the same safe design approaches and standards that we use across physical industries are also applied to digital technologies and platforms. Furthermore, the GDC outlines that for technology companies' ethics and safety cannot be optional and investments must be made in capacity and strategy for responsible technology development and deployment. The call to action within the GDC strongly applies to the video games industry. As video games continue to shape global digital experiences, policymakers and industry leaders have a global responsibility under this internationally endorsed instrument of the GDC to apply ethical design choices that foster autonomy, cooperation, inclusion, and representation.

It is acknowledged that many developers and designers are already making some of the ethical game design choices that have been outlined here and that there are positive steps being undertaken in videogame industry to support player well-being and inclusion. In this brief we highlighted some key design choices, aligned to the GDC, that we believe should be taken up more broadly. These choices support the creation and maintenance of open and safe spaces for all. In summary, to protect **player autonomy**, developers should commit to positive design practices that prioritise engagement without manipulation, avoiding deceptive patterns and exploitative monetisation techniques. To **promote critical thinking and cooperation**, multiplayer games should be designed to encourage collaboration as opposed to aggression, integrating mechanics that teach pro-social skills such as communication, consensus-building, and teamwork. Additionally, video games should explore nuanced ethical dilemmas through high-quality storytelling, helping players develop empathy towards other groups and an understanding of complex social issues. To ensure **gender and cultural inclusivity**, developers must actively seek input from diverse communities to authentically represent gender, culture, and diverse marginalised populations, such as ability-based identities. Accessibility testing should be a standard practice, ensuring that game mechanics do not unintentionally disadvantage marginalised players. To **foster cultural awareness and intercultural skills**, the video game companies should commit to meaningful community partnerships, consulting advocacy groups and cultural experts to prevent misrepresentation and promote respectful, informed portrayals. By systematically and consistently embedding these principles into video game design, the industry can create more inclusive, cooperative, and ethically responsible gaming experiences that enhance social well-being and cohesion while maintaining the creativity and immersion that define the medium.

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