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The Older Gamer in Games Studies: Marginalised or Idealised?

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This study concerns older gamers, who are often neglected in the gaming world. After reviewing the literature about older gamers, we have found most studies focus on the therapeutic function of videogames for solving problems related to age. Using an intersectional vision of critical gerontology studies and critical disability studies, we find that implicit compulsory youthfulness and compulsory ablebodiedness or ablemindedness colours studies about both older gamers and disabled gamers. These compulsory systems not only put older gamers and disabled gamers into a passive treatment-receiving position but also exclude them from a non-utilitarian style of game playing. Moreover, we recognise there are images of so-called ideal game players in current studies about older gamers and disabled gamers. These images further marginalise older gamers and disabled gamers. It is suggested that scholars undertaking future studies avoid ageism and ableism when studying older gamers or disabled gamers. Instead, researchers need to explore the original motivation of ageing people or people with disability to play video games, the sociocultural environment in which they are exposed to games and the specific social conditions under which games affect them.

Keywords: Older gamers; gerontology studies; disability studies

Introduction

This paper arose in the context of a 2019 research symposium on ‘Open Literacy: Games, Social Responsibility and Social Innovation’, hosted by the Centre for Culture and Technology at Curtin University, supported Tencent Research Ltd. In his Report to Tencent on the event, the symposium convener, John Hartley, characterised games as ‘group-making activities that function culturally as experimental spaces for social adaptation and innovation in the context of accelerating technological or environmental change, some of which is clearly caused by humans’ own collective actions’ (Hartley 2019, p. 5). Part of the purpose of the symposium was to identify cultural, collective and positive ‘uses’ for games, in a departure from prevailing behavioural approaches, whose purpose is to identify individual harms rather than social responsibility and innovation. As a contribution to the symposium, we took on the task of identifying research findings in relation to videogames in particular, looking not for a scholarly consensus on addictive or deviant behaviour among youths, but for work that has sought to include games in ‘group-making activities’ in the context of cultural relations and identities. Our own research interests lie in the uses of digital media by older people (Wu 2013; Wu 2016; Guo 2020), so we have concentrated on this cohort. Given the preponderance of behavioural sciences in this part of the research domain, we found that studies tended to focus on (claimed) direct individual effects of videogame-playing. Broadly, such research neglects relational and contextual dimensions of older people’s engagement with games. It neglects marginal and disadvantaged groups (staple fare in cultural and media studies), and thus underplays questions of access, representation, equity, identity, inclusion and intersectionality. Nevertheless, we have worked through the research archives – both classical and contemporary – to discover that these are the very attributes of games research among older people that need serious attention. In recognition of the relational and contextual nature of the research field as well as the experience of older people, we have included the overlapping domain of critical disability studies, which has brought new questions of ‘social responsibility’ and ‘social innovation’ to scholarly attention.

This paper reviews the research field to discover various unspoken assumptions that need to be addressed in order to gain full insight into the part that older people play in the development of 'open literacy' through videogames and gaming.

A BBC news report released in May 2020 showed that during the COVID-19 pandemic lockdown there was a considerable boost in video-game-playing, and gaming worked as an effective way to help keep hundreds of millions of players around the world connected and safe (BBC website 2020). Even prior to COVID, the percentage of the population regularly playing games was on the rise and, for some, videogames had become a way of life. According to data provided by the Gaimin website, there were about 2.2 billion gamers in the world in 2018 (Gaimin 2018), making almost a third of people on the planet. While there is great diversity among the gaming population, academic literature and media representation have tended to focus on young or mid-aged game-players (Buckingham & Willett 2013; Chen et al. 2019; Gros 2007; Habgood & Ainsworth 2011), especially those who are actively involved in mainstream videogames. Despite their limited representation, the older gamer population has grown worldwide. For example, according to an American Association of Retired Persons (AARP) survey published in 2019, the older gamers population (50 years of age and older) in the United States has grown from 40.2 million gamers in 2016 to 50.6 million gamers in 2019. It is hard to find older game players in the media or academic literature, especially players who need support to access video games.

Age, like gender, is relational, and games studies would benefit by addressing the impact of these intersections. But existing research treats the videogame as a preserve of young gamers, ignoring the relationship between them and gamers of other ages, especially older gamers. Alison Harvey (2015) argues that confining new media use to youth culture is problematic, because the relationship of young people to technology is formed within their existing relations with people of other ages and with discourses of generationality.

This article provides an overview of current games studies that refer to children, older people and people with disability. Drawing on classical theories about play, critical gerontology studies and critical disability studies, we focus on how current games studies explore the impact of video games on older gamers. We suggest that most of the existing studies about older gamers emphasise the therapeutic function of video games in a way that reinforces stigma against both older gamers and gamers with disability. We suggest that implicit 'ideal game player' models within current games studies are shaped by commercial, cultural and political forces.

Games studies: A long-standing focus on youth

Classical theories about (game) play

Classical theories about play offer important insights to our current discussion of older gamers. Discussions around play are mostly expounded in philosophy, psychology and education. Although most scholars used the word 'play' instead of 'game' in their studies, some of them pointed out that games can be regarded as a form of play which intensifies the joy of recognition by 'putting obstacles in its way' (Groos 1899 in Freud 1905, p. 89).

Biologist and philosopher Herbert Spencer (1875) believed that humans' aesthetic activities come from their instinct to play. Relevant statements about play have been called 'surplus energy theory', with the main idea being that after children's material requirements for basic life are satisfied by their parents, children release their excessive energy through play (Spencer, 1875). This play has no practical, utilitarian purpose. Lazarus's relaxation theory approached play from a different angle; he proposed that the goal of a game is to recover energy from work. This theory is often used in school education practice (Lazarus 1883 in Mellou 1994, p.92). Psychologist and philosopher Karl Groos' pre-exercise theory claimed that play among children is to practice and strengthen the necessary skills needed in their adult life (and see G. Stanley Hall, 1906). Play is a way for children to rehearse various scenarios which are crucial to their later survival (Groos 1901). In fact, Groos (1901: 361–406) argued that children's play differs from adult play. 'Surplus energy theory' accounts for play in children; but in adults, who play even when they are not discharging surplus energy, a further requirement is that adult play contributes to 'the development of the social capacities' and to 'the highest and most valuable form of adult play', namely, aesthetic enjoyment (1901: 366; 378–9). In other words, play is a special mode of make-believe ('illusory') communication and sociality, which is biologically functional for rehearsing both individual agency ('ontogenous practice') and cultural connectedness, cohesion and continuity ('phylogenetic development'). We may extend this insight to pose questions about the distinctive features of play among older people that can in turn illuminate the theory of play more generally and, in the process, to integrate biopsychological (behavioural) and semiotic (sociocultural) approaches.

While classical theories about play focused on explaining why it exists as a physiological phenomenon, modern theories of play attempt to explore the role of play in extensive social areas. Dutch historian Johan

Huizinga (1949) discussed the importance of the play element of culture and society and how play activities are related to law, war, myth, philosophy, the growth of knowledge and all forms of art. Neurologist and psychoanalyst Sigmund Freud proposed the cathartic function of play and argued that play could help children eliminate negative emotions caused by traumatic events (Freud 1961 in Mellou 1994, p. 93).

These earlier studies provide the foundational knowledge for game-play. However, they involve a narrow range of subjects and most scholars tend to focus on early adolescence. But as we mentioned above, Groos (1901) considered the meaning of play for adults. He argued that the cheering and humanising effects of play may be more important to adults than to children, because the wider demands of adulthood are not always satisfactory (p. 395), so play is a recreational release. Furthermore, among these studies, less attention has been paid to how the characteristics of the player, in turn, affect the function of play. Despite these shortcomings, classical theories about play still provide a historical, theoretical source for today's research about games.

Games studies of children

The influence of videogames on children, especially the influence of violent games, has been the focus of many games studies. While some studies have revealed the potential harm that videogames have brought to children (Kardaras 2016), some other researchers have broadened their focus to different types of games and are taking a more open look at their effects on teenagers (Kovess-Masfety et al. 2016). In fact, without considering the context of children's game-playing, it is hard for research to make a reasonable assumption of the impact of videogames. Thus, an ethnographic six-month-long study of young people aged nine to fifteen years old in different families found that the impact of video-playing on young people depends on complicated and contingent elements, such as purposes of play, who are the playmates and 'what people make of these experiences in other times and places in their lives' (Stevens et al. 2008, p. 63). The most significant finding is that young people are motivated to play videogames in particular ways because the 'video game is now hunkered down in our culture' (Stevens et al. 2008, p. 63). This finding reminds us that no matter how we perceive them, videogames have become a part of people's everyday lives, not only for children but also for adults. There are sociocultural as well as individual-behavioural effects.

Therefore, to better understand today's game-players, we need to consider *groups* that have been neglected in mainstream games studies, such as older gamers. This study identifies and interrogates the perspectives that researchers take to the study of older gamers.

Older adults and their contact with Information and Technologies (ICTs)

Before we analyse studies of older gamers, we need to explain that there are different criteria for defining an older adult all over the world; and even within the same age group, there may be large individual differences among older people. In this article, we regard 'older gamers' as people aged 65 or older, to be consistent with popular criteria for older adults worldwide. At the same time, we notice that some reports treat gamers aged 50 or older as older gamers. Such studies may nevertheless be cited if they can improve our understanding of 'older gamers' as we have defined them.

The United Nations (2019) treats the percentage of persons aged 65 or over as the most common measure to describe changes in the population age structure. At a global scale, the population aged 65 or older is growing faster than all other age groups. In 2019, there were 703 million people aged 65 or over in the world (United Nations 2019). 15 per cent of Australia's population (3.8 million) was aged 65 or older in 2017 (Australian Institute of Health and Welfare 2018). Different countries set distinct ages as their pensionable age, and these are rising internationally, for financial reasons. While most developed countries have accepted the chronological age of 65 as a start point of older people, many developing countries treat old age as starting when a person withdraws from the workforce (Gorman 1999). The lifespan of the senior demographic has increased during the past few decades, and the meaning of being an older adult has shifted accordingly (European Commission 2014; Helbostad & Vereijken 2016). Therefore, we note the fact that chronological age cannot fully represent the meaning of 'older adult', and there may be large differences within the group considered older gamers.

Successful ageing and the extended body

Stereotypes of the ageing population have existed for a long time. Generally speaking, stereotypical images of ageing people are of negative, fragile and declined individuals. Mike Featherstone and Andrew Wernick argue that the meanings that we give to these ageing processes can be transformative, although the biological processes of ageing cannot be avoided. They define ageism as widespread discrimination against older people, which undermines their value and worth (Featherstone & Wernick 1995).

Scholars and activists have begun to challenge the stereotype of the ageing population and pay attention to positive aspects of the ageing process. John W. Rowe and Robert L. Kahn (1998) propose the concept of 'successful ageing', against the stereotypes associated with ageing. Successful ageing involves three components:

- 'low probability of disease and disease-related disability,
- high cognitive and physical functioning, and
- active engagement with life' (Rowe & Kahn 1998, p. 433).

Successful ageing helps focus renewed attention on the health aspect of ageing. This concept is helpful for changing the stereotype of decline and the fragile image of the ageing population. It reflects the social and cultural realities which are helping to reconstruct later life (Gilleard & Higgs 2002). To a certain extent, the increasing number of older Internet users and older gamers worldwide supports the successful ageing paradigm. Older adults do not lag in the application of new technologies, and can creatively make use of social media (for example) when they have access and opportunities (Wu 2016; Ferreira & Veloso 2019).

Successful ageing has been criticised as it promotes a social mandate for people to remain youthful and ablebodied throughout the course of their life. Hailee Gibbons (2016) uses 'compulsory youthfulness' to describe the implicit ableism and ageism inherent in 'successful ageing'. Compulsory youthfulness points to the systems of beliefs, values and practices that create and reinforce youthfulness, ablebodiedness and able-mindedness as ideals, thereby positioning old age and disability in a devalued status (Gibbons 2016; Butler 1989; Campbell 2009). Ablebodiedness and able-mindedness are two parts of a person's ability (Gibbons 2016). Gibbons' framework derives from disability and queer scholar Robert McRuer's (2006) paradigm of 'compulsory ablebodiedness'. He observes that ablebodiedness is defined using oppositional language. While ablebodiedness is to 'be free from physical disability' (McRuer 2006, p. 8), able-mindedness can be defined as free from mental or cognitive disability. According to such definitions, neither older disabled people nor people ageing with disability can age successfully.

Considering that ableism is at the core of ageism and the connection between critical disability studies and critical gerontology studies, Reynolds (2018) proposes the notion of the 'extended body'. The extended body refers to 'the ways in which one's body always extends into its environment, just as its environment extends into it' (Reynolds 2018, S33). This concept addresses the limitation of compulsory youthfulness and compulsory ablebodiedness/able-mindedness, reminding us to consider the relational impact of social and natural environments on a person's body, will and effort.

Because there is a lack of integration between critical disability studies and critical gerontology studies (Berger 2013; Reynolds 2018), we know little about how ageism and ableism interconnect. Hailee Yoshizaki-Gibbons (2018) suggests that critical disability studies need to explore how such compulsory systems interweave – 'both for disabled people as they age as well and for old people who acquire disabilities' (p. 183). Considering that older people and disabled people face overlapping problems in their real life, this study will also review studies on gamers with disability, although its starting point is to study older gamers.

Studies about the relationship between Older people and ICTs

Over the past several decades, the ageing population in conjunction with digitisation has resulted in increasing numbers of the ageing population becoming connected with ICTs. Under the development of digital technology globally, researchers undertake more and more studies exploring the relationship between the ageing population and digital technologies. Scholars have studied how older adults use digital technologies to seek health-related online information (Chaffin & Maddux 2007; Berkowsky & Czaja 2018) or to obtain social support and social connectedness (Tsai & Tsang 2012; Yu, McCammon & Ellison 2016). There are quite a few studies that explore how ICTs help to solve age-related problems. Scholars have found associations between older adults' Internet use and reduced loneliness, better life satisfaction and better psychological wellbeing (Heo, Chun & Lee 2015; Lam & Lam 2009; Seifert, Doh & Wahl 2017). Amanda Hunsaker and Eszter Hargittai (2018) review the quantitative literature on Internet use among older adults and point out that current studies report a generally positive impact on their health and well-being. Although being 'digitally included' can help older people to maintain their independence, social connectedness and sense of worth, access to ICT technology is not equally distributed either between or within nations (Olphert & Damodaran 2012). Among large population-representative older people samples in the US, a higher level of education is linked to higher Internet use (Gell et al. 2015). Furthermore, reduced functional status, cognitive impairment or disability may impede older adults getting online (Gell et al. 2015).

There have been increased academic discussions about the impact of digital games on older adults, with the possible health effects of games being a prominent topic. More studies have revealed the potential positive effects of digital games, such as improvements in coordination and perception (Green & Bavelier 2006) and protection against cognitive decline from ageing (Maillot et al. 2012), despite concerns about potential negative outcomes, such as so-called addiction to digital games (Griffiths 2008) and the potential negative social consequences of violent content (Anderson et al. 2010).

While some of the above studies pay attention to how ICTs help older people to avoid or ameliorate age-related impairments, they remind us to consider the interaction between digital technologies and people with disabilities. There is a considerable overlap of needs between those ageing with and those ageing into disability. Age and disability are trajectories that interact across time (Verbrugge & Yang 2002). Thus, critical gerontology studies and critical disability studies share common interests and goals (Reynolds 2018). Some scholars point out that people with disability are often further disabled by inaccessible digital interfaces (Ellcessor 2016; Ellis & Kent 2011; Goggin et al. 2003). This finding reminds us to think about the design of existing ICTs (including videogames) and the way we view older people's uses of ICTs, as the digital interfaces and social values may create barriers for older people to access or apply new technologies.

Video games and older gamers

Older gamers: An increasingly significant portion of video game industry's consumer

With the ageing of the world's population, the number of older game-users has been on the rise in recent years. According to the *Digital Australia 2020 Report*, 42 per cent of Australian people aged 65 and older played videogames (Brand et al. 2019). In a 2016 study by the American Association of Retired Persons (AARP) and the Entertainment Software Association (ESA), 38 per cent of Americans aged 50 and older said they played video games. Nearly 59 per cent of respondents said they played games online and half of the respondents who said they played online games in the 2016 study said they played more online games – on a range of platforms, including mobile, console and computer – than they did five years ago (Anderson 2016). According to the *2018 China Gaming Industry Report*, the total number of video gamers in China reached 626 million in 2018 (GPC, CNG & IDC 2018). In the first half of 2019, gamers aged 55 and older accounted for 4.6 per cent of total video players in China (Thomala 2020). The increase of gamers among the ageing population and the ageing of mid-age gamers have both contributed to the growth of research on older gamers.

Video games: A problem solver for older adults?

There is a tendency for researchers to explore videogames as instruments or tools for solving problems related to age. After conducting a systematic review of the studies about digital video-game interventions with adults aged 65 and older, scholars have found that most studies report significant positive effects on health outcomes from game-playing (Hall et al. 2012). Besides recreational functions, digital games have therapeutic effects, and they can improve older gamers' computer literacy and self-efficacy in relation to other modern technologies (Ijsselstein et al. 2007). Amanda Hall and Hannah Marston (2014) notice that researchers turn to digital games to foster healthy ageing, and digital games are used as rehabilitation tools or mental exercise tools. Jason Allaire and colleagues (2013) compared regular, occasional, and non-gaming older adults to suggest that older adults who reported playing digital games received higher scores than non-digital game-players on measures assessing several domains of 'successful ageing'. One Canadian survey among adults aged 55 or older found that digital game-play has the potential to enhance older adults' quality of life by improving their physical, socio-emotional and cognitive capacities (Kaufman et al. 2016). Videogame training enhances cognitive control in older adults, according to a study published in *Nature* (Anguera et al. 2013). Fan Zhang and David Kaufman (2016) state that older adults suffer more or less from some physical and cognitive limitations, and playing digital games can improve their physical and cognitive functions in a short-term game training. Nevertheless, digital games' long-term effects and relevance for daily life functioning remain uncertain.

Some scholars explore the personal preferences for digital games among different gamers. Blocker et al. (2014) and Kaufman et al. (2016) find that retired people are not interested in fast reaction speeds, violent or over-sexualised games. Túlio Teixeira Cota and Lucila Ishitani (2015) claim that casual games are the most suitable type of game played by older adults, and that the use of narratives, an association with traditional games, and the low complexity of the game may influence the motivation of older people to play. A later study finds a positive attitude towards tablet-based casual games among older adults, who would like to try

out new technologies when given an opportunity to play (Chesham et al. 2017). Belinda S. Lange and her colleagues (2010) point out that virtual reality (VR) and gaming technologies can maximise function and participation for those ageing with and into a disability.

While most of the studies mentioned above focus on video games' potential for positive health effects among older gamers, more robust and rigorous research designs in studies are needed to increase the validity and reliability of results and to establish stronger causal relationships on the health benefits of digital video game-play for older adults. The therapeutic function of videogames may not be significant, or its function can only come into play under certain conditions. For example, Wijnand Ijsselsteijn and colleagues (2007) point out most such studies have employed specially designed games, rather than commercially marketed ones. The rapid and complex responses required by commercial games may prohibit (some) older people from easily accessing them (Ijsselsteijn et al. 2007).

Study of older gamers: undervalued topics

Bob de Schutter and Vero Vanden Abeele (2015) explore the current discourses on games and ageing, categorising them into two themes:

- The first theme is digital games can improve certain skills and life quality for ageing players;
- The second theme refers to 'age-related constraints that prevent older adults from playing' (p.113).

They suggest that games should focus on growth, rather than on the decline of senior players, and games should emphasise playfulness over usefulness in terms of the adjustment function for ageing game-players.

Generally speaking, compared with the studies focusing on the health benefits of video games on older adults, the role of videogames in enhancing social interactions has been relatively understudied (Osmanovic & Pecchioni 2015). Nevertheless, some research explores the relationship between older gamers and videogames from a social-interactionist perspective. Social motivation has been identified as the main motivation that drives gamers of all ages (Whitbourne, Ellenberg, & Akimoto, 2013). In an analysis of national survey data of 1,101 valid participants (in the US), ranging in age from 60 to 89 years old, Yu-hao Lee (2019) finds that playing online games with either local or distant ties predicts both bonding and bridging social capital. This finding supports the argument that online games have the potential to help older adults to maintain their social connectedness.

Besides social motivation, relaxation and fun are another two motivations for older people to play digital games (Nap, De Kort & Ijsselsteijn 2009). Ijsselsteijn and colleagues (2007) identify four potential areas for games to contribute to improving the quality of life for older people, they are:

- socialising;
- relaxation and entertainment;
- sharpening the mind;
- interacting in a natural way.

Digital gaming as a social activity can provide a rich set of topics of conversation and serve as a way of decreasing social distance. An interesting finding is that when older adults play games with younger family members, both generations can experience positive emotions and the intergenerational connection is strengthened (Osmanovic & Pecchioni 2015). Scholars also suggest that game design should match the specific needs of older gamers and create a user-friendly, simple and motivating game-play environment. Moreover, game designers should exploit ways to enhance social aspects of game-play to satisfy older gamers' desire for social connectedness (Marston 2013; Villani et al. 2017).

The aforementioned studies concern the social function or design features of video games. However, after going through a number of studies about video games and older gamers, we identify a narrow health focus. Only a limited number of studies discuss accessibility issues for older gamers, and fewer studies explore the conditions or context under which videogames can influence on older gamers. We don't know whether game-playing affects older people's social engagement or digital literacy; what is the meaning of video games for older gamers; or if they play games for fun or to kill time. To explore such questions, we need studies to investigate how the motivations of older gamers to access video games intersect with the discourses and meanings of their life course and sociocultural backgrounds; and how the ways that they play games alters the the potential effects (either positive or negative) of these games.

Furthermore, we found that when referring to older gamers, some studies took an implicitly ageist approach regarding the ageing population as being in decline and fragile; focusing on compulsory ablebodiedness/ablemindedness. Such an approach reinforces stereotypes of the ageing population as needing treatment and videogames solely as problem solvers (Hall et al. 2012; Wiemeyer & Kliem 2012). Older people and people with disability share common needs; and older gamers and disabled gamers were often studied from similar perspectives in some games studies. Therefore, the insights from critical disability studies approaches to gaming can provide enlightenment into possible research directions for studies on older gamers.

Another group marginalised in games studies: Disabled gamers

Similar to older gamers' position in games studies, disabled gamers are marginalised in current games studies, yet studies into this cohort are increasing. In fact, gamers with disability have constituted an important part of all gamers. A survey conducted by the Information Solutions Group on behalf of game developer PopCap in 2008 found that one in five players of casual videogames have an impairment related to physical, mental or developmental disability; and that those disabled gamers play more often than others because of the health benefits (GamesIndustry International 2008). In the survey, 94 per cent of gamers with disabilities reported that playing casual games yielded physical or mental benefits. The casual games in the survey pointed to software-based entertainment that includes word and puzzle games and board games (GamesIndustry International 2008). Although PopCap might have a vested interest in the poll results as a game creator, the survey findings reveal that people with impairments constitute an essential proportion among all the game-players (Chin 2015). Nevertheless, many of the video games are not accessible for gamers with disability owing to a lack of awareness among game developers (Yuan et al. 2011).

A literature review of disability and gaming by Katie Ellis and Kai-Ti Kao (2019; for this journal) has revealed that relevant studies put their focus on how videogames work as educational or therapeutic resources for people with disability. They argue this tendency might put players with disability into a passive position, as 'treatment-receiving objects' (Wästerfors & Hansson 2017, p. 1143). Although game-players with disability may experience more limitations compared with other players, they can also become active game-players and share similar motivations, gratifications and frustration with other players. Ellis and Kao's research tells us that it is important to understand what different groups of players with disability require for accessing or playing videogames. From the perspective of game design, these observations remind games developers of the importance of developing a more comprehensive understanding of the different embodiments of game-players' experiences.

Discussion

Compulsory youthfulness

Most of the current studies about older gamers put their focus on compulsory youthfulness which emphasises ablebodiedness and ablemindedness. It is significant to explore the positive influence of video games on older people's physical and mental health. However, when too much attention is paid to the therapeutic function of video games and to the older gamers who make use of video games to delay physical or mental ageing, a value of compulsory youthfulness for older gamers is perpetuated. Joining criticisms of 'successful ageing' previously outlined in this article, Yoshizaki-Gibbons (2018) claims the idea of maintaining youthfulness and ablebodiedness/ablemindedness is both ageist and ableist.

Some scholars went back to classical theories about play to argue that fun and amusement are essential characteristics of playing digital games, emphasising playfulness over usefulness. De Schutter and Abeele (2015) argue that age-related adjustment should not interfere with the actual game-play of the games, and games should not be marketed solely for the purpose of mitigating age-related decline. Blocker et al. (2014) conclude that digital games should allow older adults to access rich and rewarding entertainments. Some recent news reports reveal that people nearing retirement are engaging with digital games for fun (Ward 2017). De Schutter and Abeele (2015) also argue that the video games industry and academia should explore what differentiates older gamers from the perspective of individual differences in order to move beyond ageism in games.

The 'extended body' concept tells us that when studying interactions between older gamers and videogames, we need to explore whether these gamers' will or effort can be supported by their environment. Furthermore, when we explore the impact of videogames on older gamers and disabled gamers, we need to consider how the functions of video games intertwine with a series of social, political, economic, legal and

cultural factors. These environmental factors affect not only the design, application and sale of video games, but also the perception of who are described as ideal gamers.

'Ideal' gamers and representational equality

Adrienne Shaw (2011) points out that video games industry rarely recognises members of marginalised groups as gamers, so there is a lack of portrayals of these groups in videogames. For a long time, the term 'gamer' has been associated with a particular stereotype – young, white, heterosexual, male and able – but this has attracted much debate and introspection as the demographics of people playing games have diversified (Williams, Yee & Caplan, 2008). Shaw (2011) states that 'Like any identity, being a gamer intersects with other identities and is experienced in relation to different social contexts' (p29). While Shaw understands gamers from the perspective of their self-identity, we look at gamers from the perspective of researchers. In the following discussion, we borrow the concept of 'ideal gamers' to reveal the biases in existing research on older gamers and disabled gamers.

Michele Willson (2019, p. 621) proposes the concept of 'the ideal child' to describe the phenomenon whereby children's futures have been captured, modelled, managed and normalised to naturalise algorithmic manipulation. She explores how the delegation of quantification processes and predictive practices to algorithms, coupled with disciplinary discourses and cultural understandings, change the way that we understand and raise 'the child'.

While undertaking literature review, we have recognised the same processes at work in relation to older gamers. There is an implicit image of supposed 'ideal' players in numerous studies of older gamers and disabled gamers. The conceptualised ideal is confined to those who can get access to videogames and make use of the games to interrupt or delay the process of ageing. And the corresponding 'ideal' of disabled gamers applies to those who can get rid of the limitation of disabilities and obtain either physical or mental benefits from game-playing. These ideal gamer models correspond to compulsory youthfulness and compulsory ablebodiedness/ablemindedness, which marginalise both older gamers and disabled gamers.

Inevitably, less attention has been paid to '*non-ideal*' game-players among older and disabled gamers. The non-ideal game-players may include:

- those who find it difficult to access videogames or need support for accessing video games;
- those who play games just for fun without noticing or experiencing the games' therapeutic or educational functions;
- those who are 'addicted' to videogames;
- those who take videogames for granted because they have grown up with video games.

Like the 'ideal child' who provides a strong example of 'an attenuated algorithmic subject situated at the nexus of state, commercial, disciplinary and caretaking attention and concern' (Willson 2019, p. 621), the ideal game-player images hidden in games studies are also shaped by commercial, cultural and political forces.

Conclusion

After conducting a review of literature about older gamers and disabled gamers, we notice excessive attention has been placed on the therapeutic or positive outcomes of video games on either older gamers or disabled gamers. This research perspective expresses hidden stereotypes and stigmatisation of these two groups of game-players. The individual differences of older gamers and disabled gamers are being ignored, as are their distinct desires for playing video games and the amusements or troubles they have experienced. There is also a hidden compulsory youthfulness (including ablebodiedness and ablemindedness) when gaming research focuses on how games delay ageing or overcome the limitations of disability.

Enlightened by the 'ideal child' concept proposed by Willson, we use the terms 'ideal older gamers' and 'ideal disabled gamers' to describe the phenomenon whereby the representation of older and disabled gamers is influenced by cultural and ideological factors. When we researchers strive to move beyond the images of the elderly and disabled as vulnerable groups, we also need to avoid seeing the groups only in the idealised models. Willson (2019) has questioned the rationality of the ideal child concept, as children should not be considered as docile bodies onto which actions are applied, with their circumstances and future options 'micro-shaped' around them. Similarly, older gamers and disabled gamers are not mere 'treatment-receiving objects' (Wästerfors & Hansson 2017). Jasper Juul (2010) reminds us that the diversity of players requires that games be flexible in the assumptions about who the player is, what the player knows, how the player

wants to use the game, and when. Acknowledging the diversity of game-players and their relationship with video games may encourage us to realise there are no ideal game-players, and help us rediscover the players who have been neglected in games studies, such as older gamers and gamers with disability.

Competing Interests

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