Older Women on the Game: Understanding Digital Game Perspectives from an Ageing Cohort

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1. INTRODUCTION

There has been a substantial amount of activity in the game industry in relation to the deployment of digital games since their demise in the late 1950s and early 1960s. Conversely, within the early part of the 21st century, researchers have also taken an interest in digital games and their use within society for health, rehabilitation, societal engagement and playing for fun. The first computer game to be released by the game industry was *Spacewar* (1962), and from the beginning of the 1970s onwards, games were primarily accessible in public environments such as pubs and arcades (Simon 2009). This notion changed with the development of the Magnavox Odyssey (1972), which brought games into the home environment to facilitate a social relationship between the gamer and the games, but also amongst fellow players within the home. Moreover, the integration of computer games into the home is similar to the implementation of the television (Flynn 2003). While the television facilitated family togetherness and brought an entertainment medium, computer games also provided the family with a different form of entertainment, accessible in the home and not in public houses or arcades. Herman (2001) has provided an in-depth account of the videogame industry by highlighting the highs and lows experienced in the last forty years. Although this type of technology has been made available on the market for all audiences, it has primarily been accessed by tech-savvy individuals categorized as Generation X (1960s – early 1980s) and the Millennial Generation (1981-present) rather than by baby boomers, and by young males rather than by older women.

The concept of digital games for those in the childhood and youth period has primarily been male oriented (Laurel 2001), a tendency that changed in the 1980s as a result of several pioneers in the game industry: Brenda Braithwaite Romero[1], Roberta Williams[2] and Sheri Graner Ray[3]. The array of practical and theoretical work undertaken in this field by designers, critics and scholars has recognized that many games do not appeal to the female audience. Solutions have been sought to overcome this issue to enhance a greater understanding of the needs and requirements of female gamers in relation to content and access.

The use of digital games by 'other' audiences has been exponential (Bleakley et al. 2013; Hall et al. 2012; Marston/Smith 2012; Miller et al 2013) with a strong focus of facilitating intergenerational game play via devices such as the Nintendo DS handheld, the Wii, and the Microsoft Kinect consoles. The average age of female US gamers has changed considerably over the last 15 years based on the statistics published by the ESA. The average age of a female gamer in 2004 was 29 years (ESA 2004), and eleven years later, the average age of a female gamer is now 43 years, whereas the average age of a male gamer is 35 years old (ESA, 2015).

Since 2004 there has been a growing proportion of female gamers (ESA, 2004); thus illustrating a growing market which is now perceived to be an entertainment medium for all people and ages in society, not just for men or boys. Little work has provided an insight into older person's preferences of digital games (Marston 2013a; 2012); even less is known about digital game preferences of older women.

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1 | Brenda Brathwaite Romero has worked in the games industry for 34 years and has credits on 22 game titles. Ms Brathwatie Romero is best known for working on the Wizardy role-playing video games.

2 | Roberta Williams is a game designer, writer and a co-founder of Sierra On-Line (later known as Sierra Entertainment). Ms Williams pioneering work in the games industry stems from the graphic adventure games which include game titles such as Mystery House, the King's Ques and Phantasmagoria.

3 | Sheri Graner Ray has worked for a series of video games companies including Electronic Arts, Origin Systems, Sony Online Entertainment and Cartoon Network. Ms Graner Ray has worked on game titles such as Star Wars Galaxies, Ultima and Nancy Drew. In 2005 she received the International Game Developers Association Award for Community Contribution for her work on women's interests in the games industry. At present she currently serves as the Executive Char for Women in Games International.

However, with industry developments such as the development of the Wii or the Kinect console, it is unlikely that digital games will stop being utilized by older people based on the advantages highlighted by previous studies (de Schutter 2010; de Schutter/Vanden Abeele 2010; Marston 2013a, 2010; Voida/Carpendale/Greenberg, 2010; Voida/Greenberg 2009). The authors suggest these consoles are popular with older adults because of the type of interaction utilized by the individual consoles – motion and gesture/speech recognition. This makes it easier for older adults to engage with the game environment than playing on the Sony Play Station console, which uses the traditional game pad for game play interaction which older adults may find difficult to use due to age related conditions such as arthritis or unfamiliarity with the controller (Marston 2013b).

Figure 1:Displays the Increase of Gamers (by Age) since 2004
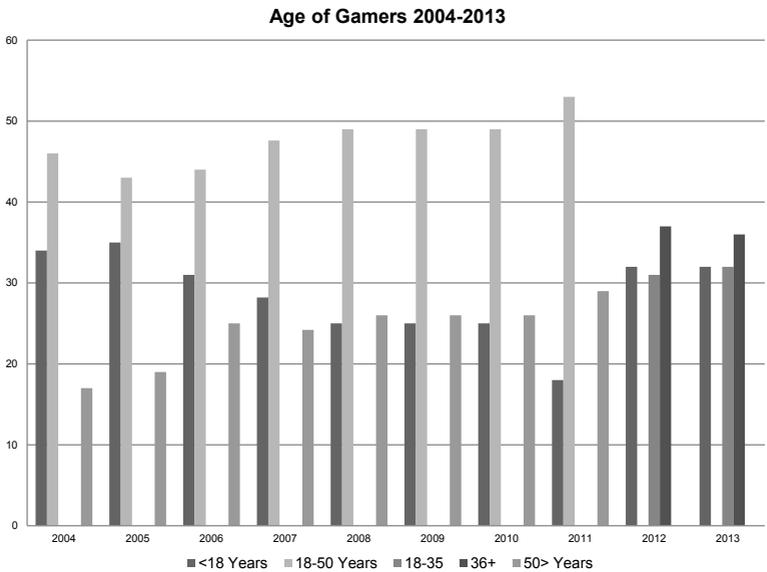
It is anticipated that the ageing population will reach unprecedented numbers in the next fifty years (European Commission, 2007). Based upon the estimated statistics and in conjunction with the digital gaming developments, it is hypothesized that there is the possibility that game technologies could

facilitate independent living, user engagement, well-being and rehabilitation to improve one's quality of life.

Within the fields of gender and game studies, older women have tended to be ignored (Krekula 2007). To the authors' knowledge, there is no work that focuses specifically on digital game preferences of older women. Besides, little research so far examines digital games from a gender and gerontological perspective. Moreover, there have been no published data referring to the number of hours spent by older women and their game playing habits in conjunction with the type of genre(s) they prefer. Identifying and understanding the preferred type of content of older women may aid researchers and professionals with the knowledge for future digital game design and developments. The work discussed in this chapter attempts to answer the following question: what are the gaming preferences of older women?

2. A GENDER-BASED PERSPECTIVE ON GAMING

Recognition of the importance to examine preferences and engagement of digital games by older adults has begun; yet, to date, its focus has been limited. Current research has examined the utilization of digital games to facilitate quality of life (Goldstein et al. 1997), the effects of cognition and reaction time while interacting with digital games (Basak et al. 2008), and design interaction, intergenerational gaming and requirements of older adults for prospective game design (de Schutter 2010; de Schutter/vanden Abeele 2010; IJsselsteijn et al. 2007; Marston 2013a; Marston/Smith 2012; Pearce 2008; Voida/Carpendale/Greenberg 2010; Voida/Greenberg 2009). Researchers have examined the relationship between gender and digital games primarily focusing on younger audiences (Carr 2006; Cassel/Jenkins 1998 Heeter et al. 2004; Jenkins 1998; Kafai 1996; Krotoski 2004; Pratchett 2005; Taylor 2003, 2006).

Game concepts for younger audiences designed by males often integrate elements of violence, which in turn became less appealing for females (Kafai 1996). Several studies have identified game elements which should be considered during the development process of games to target a female audience. The elements listed below are deemed important to female players and digital games, which include the following (Carr 2006; Cassel/Jenkins 1998; Graner Ray 2004; Heeter et al. 2004; Jenkins 1998; Krotoski 2004).

- Character development;
- Collaborative play;
- Narrative;
- Puzzle;
- Exploration;
- Role playing;
- Game experience to reflect real world experiences;
- Social interaction;
- Indirect competition;
- Team competition;
- Cooperative play; and
- Flexibility to choose and make decisions.

Traditionally, female character development and placement in games has taken on submissive roles such as the damsel in distress, or a princess in need to be rescued by a male character. One of the most internationally well recognized examples can be found in the *Super Mario Bros* (1985) game. The gamer may select either one or two male characters and must complete a series of levels to secure the release of the princess; supporting previous research that illustrates representation is often male dominated (Laurel 2001). Therefore, there is an opportunity within game design to encompass a strong female protagonist: seizing this opportunity, to broaden the appeal of the game to a female audience in addition to widening the scope of game ideas to welcome older women, Bryce & Rutter among others note that:

"[…] female game characters are routinely represented in a narrowly stereotypical manner; for example, as princesses or wise old women in fantasy games, as objects waiting on male rescue, or as fetishised subjects of the male gaze in first person shooters" (2002: 246).

Taylor (2003) explored how the female representation of avatars can affect female gamers, highlighting that a common feature within games can originate from male and female avatars and the hyper sexualisation of the characters. For example, female avatars are specifically sexual, and while "chest and biceps on male characters act as symbolic sexual characteristics, they are simultaneously able to represent power… large breasts only act as sexual markers" (41).

Graner Ray (2004) critiques / argues against the perception of 'heroes' who are identified through physical traits of "unrealistically large breasts

situated highly on the chest, a waspish waist, and a prominent, well-rounded derriere" (102), which positions the character to be "[...] young, fertile and ready for sex" (102). This notion is perceived acceptable by players who have the desire to be a hero. For example *Xena, Warrior Princess* (Renaissance Pictures) is shown to be a strong and sexy character and not hyper sexualized in the television program bearing the same title. Her physical body proportions were not exaggerated and yet represented a heroic character. Furthermore, Graner Ray notes how female gamers reported an increase in confidence through the representation of an avatar (2004: 105).

The evolution of Lara Croft (1996-2013) has changed considerably. Designers/developers have continued to hyper-sexualise the character: for example, her stomach and breasts are uncovered in the latter character developments, more so than in the earlier images. During game play, the camera angles highlight the hyper-sexualized character development of Lara Croft, to emphasize her bust. As Graner Ray states, "Even when on her back and covered in the sand, her very large bust line stood straight up like two large missiles" (2004: 33). With this in mind, Lara Croft may be perceived as a negative role model. In the 1990s, characters such as Buffy the Vampire Slayer and Lara Croft rose to popularity amongst the 'laddette' culture whereby women would play the 'lads' at their own game (Kennedy 2002). With this in mind, Lara Croft's over exaggerated body may be perceived as a male fantasy.

In addition to the limited work (Krotoski 2004; Pratchett et al. 2005; Taylor 2003, 2006) focusing on gender representation, there is still little information focusing on digital device ownership, behaviour and preferences by older adults – in particular older women – with the exception of Pratchett et al. (2005), who reported the use and ownership of digital devices, digital game consoles and user preferences across age from UK users. The survey highlighted that 40 per cent of the adults aged 51-65 years owned games consoles and 18% owned a handheld game device (Pratchett et al. 2005).

Pratchett et al. (2005) notes how the digital game preferences display similarities and differences between the sexes. For example, simulations[4] and massively multiplayer online[5] (MMOs) games such as *World of Warcraft* (WOW,

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4 | Simulation games aim at simulating real life activities – for example, in a business or training situation. An example of a simulation game is SimCity (Maxis).

5 | Massively multiplayer online games can facilitate a large number of players within one environment, simultaneously engaging with one another or executing a variety of different tasks.

Blizzard Entertainment) were equal for both genders, unlike strategy[6] and role playing games[7] (RPGs), which were slightly surpassed by males, while women preferred to play music/dance, puzzles/ quizzes, and classic board/ games.

Winn & Heeter (2009) conducted a study of game playing habits among college students and identified that male gamers played games for a minimum of 60 minutes or more per day. In contrast, female gamers reported to have less time, and preferred to play for shorter time periods. This results in a preference of different game genres being played – such as casual instead of first-person shooter (FPS) – according to the time needed to play FPS games, as opposed to puzzle games, which a player can pick-up and play over a 30-minute period, whereas playing an FPS game requires more time. Moreover, "women have smaller chunks of free time than males" (Winn & Heeter 2009: 4), assuming that women have to conduct additional day-to-day activities; resulting in the female students preferring to play casual games[8] rather than games which take larger chunks of time to play.

3. GERONTOLOGICAL PERSPECTIVES ON AGEING

The following section provides different gerontology theories that have served the field to build and enhance understanding of the life course with regard to changing the behaviour of older people throughout the lifespan. Havighurst's Activity Theory (1968) as seen in "Disengagement and Patterns of Aging" focuses on the individual's adjustment and adaptation, whereby a positive relationship is formed between an activity and life satisfaction. This is similar to the expression 'use it or lose it', which has been linked to the Brain Training games aimed at delaying or mitigating the effects of dementia (Basak et al. 2008; Clark/Lanphear/Riddick 1987).

Kart & Manard (1981) suggest there is a positive relationship between activity theory and life satisfaction, whereby the decrease of social loss results in a decrease in life satisfaction. They contend that the" most successful

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6 | Strategy games such as Command & Conquer facilitates the player(s) decision making to affect the overall outcome.

7 | RPGs allow the player to take on a specific role within a game such as Doom (EA Games).

8 | Casual games are "A game intended for people for whom gaming is not a primary area of interest" (Sheffield 2008).

aging (adjustment) occurs for those persons who stay active and resist the consequences of changes that equate with losses" (449). Lemon/Bengtson/Peterson (1972, 1981) reported criticism of this theory and identified that it was perceived as being "a simple, linear model for predicting life satisfaction" (1972: 520). Lemon/Bengtson/Peterson 1972, 1981) identified this theory to be inadequate to portray the intricacy of interaction between individuals and social situations (Howe 1987).

In 1961, Cumming & Henry posited disengagement theory as a process whereby an individual's age is a mutual agreement between the person and society that commences via the process of withdrawal from social roles and relationships with society. It is suggested "that it was beneficial for both the aging individual and the society that such a disengagement takes place in order to minimize the social disruption caused at the older person's eventual death" (Morgen/Kunkel 1998: 274). Although this theory focuses on the eventual departure from earth, it also corresponds to individuals transferring from the work place into retirement. There is criticism of disengagement theory: for example, Kastenbaum (1993) proposed that the ageing process should be positive and entail an engaged lifestyle.

However, Morgen & Kunkel (1998: 275) noted that the aforementioned theory was not necessarily fixed and this was the ethos of disengagement theory; it soon became a normative statement ("People *should* disengage") rather than as a description of reality ("As they age, people *do* disengage"). Hochschild (1975) contends that the notion of disengagement is conventional and foreseeable, as the timing and nature varies amongst an ageing population. Paoletti (1998) shows how older adults construct age identity through social construction. The participants perceived themselves "as active and effective older adults" (Lin/Hummert/Harwood 2004: 263), in comparison to other older adults who maybe" lonely, sick, and dependent" (Lin/Hummert/Harwood 2004: 263). The adults in the study conducted by Paoletti (1998) distinguished themselves and formed a perspective of a" positive group identity by verbally distancing themselves from other older people" (Lin/Hummert/Harwood 2004: 263).

The concept of the life course as structured towards growth and maturing is reinforced and emphasised: the stages within the life course are childhood, adolescence, adulthood, middle age and old age. Within these categories, there are norms which society perceives to be acceptable. For example, a woman aged between 20-40 years giving birth would be socially acceptable, while a woman aged 50+ having her first child would not be perceived to

follow the norm with respect to the biological processes. Taking into account the life course, the implementation of digital games was initially perceived as a medium for boys (Laurel 2001) as well as men who perceived it as a form of leisure (Bryce/Rutter 2003; Cassell/Jenkins 1998), a view that is similar to that of Haddon (1992) and Turkle (1984). However, it is hypothesized with the anticipation of ageing populations, the implementation of digital games and technology into one's life at the later stages of the life course has the potential impact to transform and facilitate the user's life in many ways, such as in health and well-being, learning new skills, communication with friends and family, and information seeking.

Feminist gerontology is built upon familiar aspirations comprising of the "development of social consciousness about inequalities, utilization of theories and methods that accurately depict life experiences, and promotion of change in conditions that negatively impact older people or women" (Reinharz 1986: 504). Garner (1999) outlines how feminism and gerontology have similar foci: recognising women and older adults as individuals receiving equal treatment. The work conducted within gerontology in recent years has primarily focused on older adults as a whole without making distinctions of sex (Garner 1999): in particular, the primary study of men as subjects was criticized within the medical field of gerontology (Garner 1999). Garner (1999) suggests that the increase of feminist gerontology could be due to the ageing process of feminists themselves. Reviewing the literature surrounding digital games from a gerontological perspective, there is little or no published work that makes the distinction between older women and men. The relationship between feminism and gerontology continues and, as Garner (1999) notes, feminism and gerontology attempt to build upon mechanisms for both social change and individual empowerment.

This section has provided an overview of different gerontological theories which display how adults in later life and in conjunction with feminist perspectives can be portrayed and associated to work in the 21st Century in particular where technology may have an influence within one's life. So far, empirical research is missing in the fields of gender studies and gerontechnology with a primary focus of older women's digital game preferences. In the next section, the authors outline a study which formed a sub-domain of Marston PhD work, in addition to the results, discussion and conclusion.

4. EMPIRICAL DESIGN

The data presented in this paper were collected in 2005 as part of Marston's PhD thesis (2010). A total of 28 participants were contacted and recruited at Teesside University and the Psychology and Communication Technology (PaCT) Lab at Northumbria University. Twenty-four participants (male and female) aged between 53-75 years were recruited for the study. The participants were provided with an informed consent and the resulting data are reported in the following sections.

The purpose of this workshop conducted by Marston was to create individual digital game concepts through a paper and pencil exercise. Marston (2012) provides an in depth detail and break down of the game design workshops that enabled the participants to create their own game concepts through a step-by-step approach. Workshops were conducted and included: (a) an introduction to the workshop and the purpose of data collection, (b) getting started – which focused on the participants prospective game idea, (c) how to play – which focused on how prospective players would interact with the game (e.g., keyboard, gesture, mouse) and, finally, (d) the finale – which covered the costing of the game, additional target audiences, and marketing of the game. The participants completed the survey once the workshop had finished.

A quantitative survey was developed and included several items: console ownership, whether the participant(s) would consider game playing, preferred game genre(s), frequency and length of game playing, purchasing habits, method of learning, and demographics.

5. RESULTS

Quantitative Results

The personal computer (PC) was primarily owned by female participants and a small percentage of the participants reported to owning a digital game console. A variety of hobbies were reported by the female participants, which primarily included walking, doing arts & crafts, playing cards, dancing, watching television, going to the cinema, and playing board games. A variety of preferred game genres were reported by the female participants, which included games in the puzzle, strategy, adventure, shooter and platform genres. Participants primarily reported the type of game genres they would consider

playing, which included: puzzle strategy, board games, sport, and adventure. Participants primarily reported to teach themselves how to play games, in addition to learning via their grand/children and in educational classes. A positive trend was shown by the female participants willing to play games and who were also positive in playing games relating to a hobby or interest.

Qualitative Results

During the workshops the participants were asked to record a series of verbs they would incorporate into their game concept: different types of verbs recorded by the participants, initially forming a basis for their game concepts. Throughout digital games, one will always find at least one or several imbalances such as human or alien, good or bad; several imbalances were recorded by the participants, which they would want to implement into their game concepts. The pleasure that can be experienced by gamers varies during their digital game engagement and can include achievement, gratification, and satisfaction of completing a level, and attaining a specific object needed to complete a task. However, there were variations depending on the type of game – such as massively multiplayer online role-playing game (MMORPG), which facilitates conversation and friendship amongst players; whereas other rewards for completing a task or reaching the next level. For some, mastering a particular skill is more important and this may be attained through team work or playing as a single player.

Identifying the Big Picture

Taking into account the different keywords and sections previously discussed several findings associated to game ideas can be discovered (c.f Table 1). Taking this a step further and utilizing the metacritic[9] website, which follows a similar undertaking by the games industry, the game ideas were identified via discourse analysis by highlighting themes primarily based on keywords such as education or action (c.f. Table 2).

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9 | http://www.metacritic.com/games.

Table 1: Displays Several Game Concepts highlighted by the Participants

Big Picture (concepts)
•   Garden design, variety of styles
•   Travel the world, offer educational information, sites of interest
•   A quest, problem solving, end up with a final cross stitch based upon
•   Puzzle, set in a work environment, able to distress, promote colleagues
•   Human body, a blood cell travels around the body, and learn about different sections
•   Tour around a country/county, visiting historical sites
•   A situation in history with fantasy. Variety of different peoples (invaders, towns folk etc). Have to collect supplies
•   Nature trail, identify animals, flowers bird songs
•   Social situation, play different roles within society
•   Sport – track and field events
•   Travel to historical place(s) learn more about a place
•   Escaping from a movie which has obstacles, similar to a maze
•   Travel around the world, a period of history and offers different questions etc to gain entry/travel throughout •   Museum work/meeting friends

Table 2: Game Genre categorized from the Concepts created by Female Participants

Game Genres from Concepts	
Genre	Frequency[1]
Educational	8
Puzzle	2
Travel	5
Adventure/Quest	1
Strategy	1
Fantasy	1
Role responsibility	1
Sport	1
Other	5

Keywords were grouped together (c.f. Table 3) to identify a common thread, which enabled the identification of themes. Keywords were highlighted via discourse analysis and categorized according to the section(s) that were presented to the participants.

Table 3: Displays the Themes identified from the Keywords collected during the Workshops

Verbs		Theme	Pleasure		Themes
Reading Playing Modelling Working Flying Counting Measuring	Walking Eating Listening Drinking Observing Sewing Attaining	Recreation	Rule breaking Annoying people Expressing feelings Calm/relaxed Friendship	Amusement Frustration Exhilaration Fascination Relief Challenge	Mentality
Swimming Riding Climbing Skiing	Sailing Shooting Boxing Flying	Play	Learning Challenge Engagement	Mastery of skill Gratification	Pedagogy
Fighting Shooting Attainment Building Modelling	Missing class Labelling Fighting	Regulation	Menus/touch Screen Buttons Fun	Calm/relaxed Expressing feelings Friendship	Interaction
Learning Reading Speaking Researching	Planning/ designing Attaining	Pedagogy	Experience without being there Work colleagues Friendship Beauty		Environment
Looking Smiling	Shouting Observing	Sentiment	Achievement Fun Gratification	Satisfaction Regret of outcome Winning	Atonement
Labelling Measuring Keeping mind active Observing	Learning Hiding Looking Walking Researching	Exploration			
Imbalances		**Theme**	**Game Space**		**Themes**
Order/chaos Good/bad Relaxed/tired Un/prepared Young/old Male/female Human/other People (good/bad) Un/caring Un/prepared Preserved/natural Human/alien Un/edible Short/long distance Smooth/rough distance Transport – lack of connection Transport – to get from A to B	Uncaring Bogus clues Un/common Light/dark Nice/nasty Less gore, more learning Un/interesting Weather Foliage, seasons, football pitch/ formality/ adventure playground	Human intervention Human personality Physical Space Intervention	Realistic 1st person view 3rd person view Cycles of seasons Sound effects On screen tools (compass) Pictures & words Ease of movement in environment, clues provided when hovering over information		Perspective Representation
What is the Point?			**Theme**		
Improve society Have fun – the 'what if' situation Act out hidden emotions			Role play		
Pass the time Strategy Education Achievement			Mentality		
To reach a certain point within a specific time Win/lose Achievement Satisfaction			Atonement		

6. DISCUSSION

This chapter has aimed to explore digital gaming preferences by older women and the results provided by the participants have shown positive perspectives for this cohort, which is underrepresented in the literature of game studies and gerontology.

The participants reported a game idea that has an educational focus primarily based around travel and/or historical facts/events. The concept of a game associated to travelling may have been because some participants were close to or had reached retirement or for some, or because restrictions were imposed due to health and/or financial reasons. Having a game that encompasses a travel element could help alleviate these issues. This could be associated to activity theory, whereby a person who has more time and less financial restrictions has the ability to conduct different activities such as travelling. Thus, the game would provide further/additional life satisfaction to one's life through travel and seeing places of interest. The data implies the participants still wish to maintain a productive activity that may include self-improvement.

The game ideas do not necessarily fit within the confines of the games industry classification, and the female participants reported positively to playing a game relating to their hobby or interest. The data suggest that the concepts may provide a new area for game development, and that being aware of the perceptions and requirements of older women may broaden their participation and interest.

Primarily, female participants owned a PC, which echoes similar findings to Pratchett et al. (2005), who identified that 84 per cent of older adults owned a PC. Equally, Orlov (2011) reports PC ownership by adults aged 74+ years was 41 per cent. Game console ownership by the female participants was not so common and the type of consoles owned by the participants included a PS1, Nintendo Game Cube and Nintendo Game Boy handheld.

The primary approach to learning how to play games varied and the female participants reported teaching themselves and being taught by a grandchild. Attempting to understand how older adults prefer or have learnt how to play games could be vital when introducing the concept for the first time; this is of particular concern when games are utilized within a healthcare or long-term care setting. The length of game playing varied and the majority of the female participants reported to have been gaming for more than one year. Female participants primarily played games on a weekly and daily basis. Similarly, the results presented by Pratchett et al. (2005) reported that 30 per

cent of female respondents played games once to twice a week, 23 per cent played once to three times a month and 31 per cent played less often.
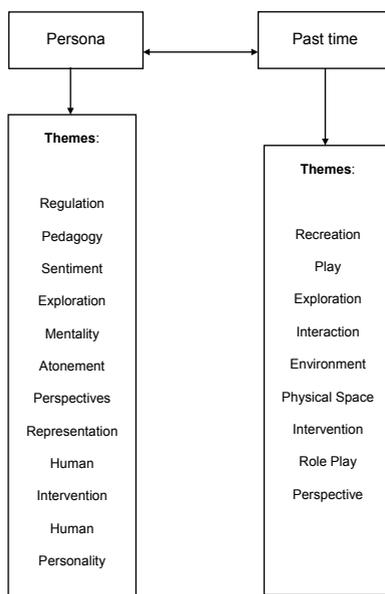
The preferred game genre played by female participants was the puzzle genre. Similarly, this is supported by Pratchett et al. (2005) who also reported that female participants in the respective study preferred playing puzzle games in addition to playing strategy games. Additional genres were also reported by the female participants and included adventure, platform, shooter and sports games.

Several hobbies and interests were identified by the female participants, in particular arts and crafts and walking, followed by card games, dancing, cycling, needlecraft and gardening. The game concepts were designed accordingly to the participant's hobbies and interests (c.f. Table 2). The participants showed a positive response to playing a game related to their hobby or interest, although participants did report that they were unsure of wanting to play a game associated to their hobbies or interests.

A variety of pleasures were reported by the participants, including achievement, fun, gratification, satisfaction, learning, engagement, challenge and frustration. These results imply that the participants would like to experience a variety of pleasures during their gaming experience. The preferred mode of communication by the participants is traditional: for example, the female participants would like to utilize a keyboard, a joystick, a mouse or a touch screen to engage with their game. Due to the time of the study being conducted, gesture or motion control was innovative or not available, whereas now this is quite a common approach to game engagement.

These results should take into account that the participants did report themselves as gamers and that they may have pre-conceived approaches to game engagement. At the time of this study, neither the Wii nor the Kinect consoles were available on the market. The authors consider that if this study had been conducted after the release of this hardware, the method of communication (interaction) could have been different. The type of visualization reported could include simplicity, images and words, easy movement and clues to the user while hovering over the information tag. Participants reported that the primary purpose of playing games is to pass the time, to experience a 'what if' situation, and to act out hidden emotions. We infer that the participants would like to experience similar emotions to those often experienced by younger audiences.

Figure 2: Displays the Overarching Relationship between the Themes and Sub-themes

Persona		Past time

Themes:

Regulation

Pedagogy

Sentiment

Exploration

Mentality

Atonement

Perspectives

Representation

Human

Intervention

Human

Personality

Themes:

Recreation

Play

Exploration

Interaction

Environment

Physical Space

Intervention

Role Play

Perspective

Based on the data analysed, two overarching themes, *persona* (e.g. human feelings, emotions, cognitive, and physical attributes) and *pastime* (e.g. human action(s), conducted in different physical spaces, with/out partnerships, and differing evaluations and assessments)*,* have been established from the data collection/analysis: these have been correlated into two overarching themes to illustrate potential relationships (Fig 2), in particular to specific game require-ments which can provide a primary sense of role play, pedagogy, and/or play/recreation. The participants seem to prefer games connected to several objec-tives and include personality, pedagogy, perspective, mentality, sentiment, hu-man intervention (rehabilitation/health/well-being), and personality. Although the game concepts were individually designed, we believe that the connections between the overarching themes and sub-theme/keywords denote similarities between the participants' concepts once they have been broken down.

The section 'what is the point' highlighted role-play as an important fac-tor for the female participants. Role-play consists in a person undertaking a different personality other than his/her own: for example, a person may work in a factory but, when playing digital games, s/he may choose to play the role of a god/dess. We propose that this theme could be correlated to older

women's roles and experiences within society, but transferred into the digital environment as they age. For example, the underpinning notion of disengagement theory is for one to withdraw from society as one age; however, undertaking a particular role within a digital game could provide a different experience for the participant undertaking a role in the real world.

The concepts derived from the verbs and imbalance section can also relate to activity theory: for example, the utilization of an activity can prove to have a positive effect on a relationship and life satisfaction. The results suggest that identifying the keywords situated as sub-themes – such as atonement, mentality, sentiment, exploration, play and recreation – has the potential to enhance positivity between digital games and life satisfaction. Therefore, older women who have retired from employment can engage with regular activities they have enjoyed throughout their life course but who are required to undertake rehabilitation due to ill health, an activity that may bring a different level of satisfaction in relation to such activities.

The life course theory (Neugarten/Hagestad 1976) provides an alternative definition to ageing and constructs the concept of ageing from biological, social, psychological and cultural perspectives, rather than focusing on one facet. The adoption of games in conjunction with the life course theory has an all rounded perspective that does not focus on an individual facet of the ageing process, such as the image of an elderly person who lives in a residential home and who has little contact with residents. Playing a game such as *Wii Sports Bowling* may facilitate an increase in social interaction, as shown by Harley et al. (2010). A person who attends a local social event at the church hall or community centre may choose to attend more frequently having the knowledge that other attendants are also members of the same bowling team. Older women who choose to interact with this type of technology may bridge the gap (if it is the case) with grandchildren, who are aware and use digital technology for recreational purposes. While our ageing populations may be aged 65+ years old, socially and psychologically they may feel younger and perceive themselves to be forty or younger.

7. IMPLICATIONS FOR THE FUTURE

Earlier work (Marston 2013a; Voida/Carpendale/Greenberg, 2010; Voida/Greenberg 2009) has formed the initial basis for continual development of games to be utilized for an ageing population. This area of research is crucial

for both academia and industry, since digital games have the potential to provide users with positive benefits. Based on the current ageing population, individuals are seeking alternative approaches to assist older adults and elderly citizens in their daily lives and activities. Taking into account the themes highlighted, one should consider the implementation of different facets of digital games for older female users who wish to explore, learn or undertake a different responsibility to those they have previously undertaken.

The statistics from the ESA (2004; 2014) have highlighted the growth of older persons playing games and the type of game genres played, but in more recent years these data have not been recorded. Yet, it is known that the ageing population will continue to grow (European Commission 2007) and having this information is important to understand who is playing what type of game genres in order to assist the academic and industry communities in providing suitable, beneficial, engaging and funny entertainment. This chapter has demonstrated that it is possible for female users to interact with a game to improve their knowledge about different countries, cultures and languages, something that may not have been possible before due to other commitments. Additionally, taking on a role which is not the norm or which is not accessible within society and being able to change their personality to a character within the game environment may be attractive to female users.

Utilizing digital games in community centres, or residential homes has the potential to provide a different form of socialisation amongst friends and peers. Engaging with games which have suitable and purposeful content for older adults may prove fruitful in the future and prevent persons from displaying signs of disengagement theory, as shown in the work of Paoletti (1998) and Lin, Hummert & Hardwood (2004). Although one may consider the loss of face-to-face engagement whilst playing digital games, there is evidence of bowling leagues being created within senior and residential environments (Harley et al. 2010; Jung et al. 2009). The creation of such events has limited social interaction but has enhanced socialization, and it is suggested this concept could be transferred across many communities – provided there is education, communication and demonstration of technology by community volunteers, family and peers.

The concepts presented in this chapter have demonstrated how the female participants require a variety of games that combine educational elements in addition to a preconceived purpose. One genre which has the potential to provide an ageing society with an alternative option is the genre 'other'. During data analysis, some game ideas were not easily categorized

and were therefore placed into the genre 'other'. Elaborating on this notion by consulting with older women during the initial design phases and through further workshops and one-to-one interviews could produce a series of suitable ideas.

The main limitations in this study are its small sample size, resulting in the lack of multivariate analysis conducted between groups or gender variations to identify any significance. One-to-one interviews were not conducted and this is something that should be taken into consideration for future explorations.

Further work in the form of focus groups and participatory design would be required to fully identify and understand the essential needs and requirements found in this initial work. Implementing a greater in-depth qualitative approach has the potential to build upon the initial concept of the participant to identify their reasoning and choices for creating the concept. In turn, prototypes could be developed and evaluated, enabling user engagement and providing feedback to ascertain whether the key elements reach the goals and needs of the users.

Technology is still perceived as a masculine entity and the concept of engaging in digital games is not different. There has been a substantial growth of games targeted at girls and a greater focus on the preferences that are important for this cohort, yet there is little understanding of games for older women. We propose that future studies should consider data sets based on gender needs, preferences, ownership and usage, thus enabling a mapping approach of technology and gaming for future development and building up a form of database to assist in the future ageing demography.

8. CONCLUSION

To sum up, the focus of this chapter was based on the design of digital game concepts by older women, with a view to broadening and providing a greater understanding of game preferences. Although there have been advancements in this area, little work has focused on older women. Taking into account the data set and the discourse analysis approach, several themes have been highlighted and the authors have attempted to display the connections based upon the preferred content preferences, resulting into two overarching themes (persona and past time). With this in mind, the data suggest that the participants would like to experience a variety of emotions, gratifications

and roles that may not have been available to them in earlier years of their life course. Although one could say this is not dissimilar from gamers themselves, who play games so they can be a rock star or a dragon, from a female and life course perspective it refers to the fact that they may want to play roles that were not available to them due to preconceived notions of society or upbringing. Nonetheless, with the purpose of using digital games for social engagement, rehabilitation and the potential to bridge intergenerational relationships, the data presented could serve as an initial step to fully comprehend the needs and requirements of older female users.

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