

# Middle-aged Players' Memorable Experiences with Pokémon GO

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## ABSTRACT

As the first location-based augmented reality game to gain mainstream popularity, *Pokémon GO* also reached an older demographic of players that have traditionally played less and whose play experiences are under-researched. In this article, we present the findings of a qualitative survey study (n=349) focusing on the middle-aged (40–65-year-old) *Pokémon GO* players' memorable experiences from the time when the game's popularity was at its peak and its player base likely most diverse. We analyzed the open-ended survey responses with thematic analysis, resulting in 7 categories and 88 thematic codes. The categories constructed were *Game Play & Game Content*, *People & Sociability*, *Location*, *Circumstances & Context*, *Negative Events*, *Feelings* and *Other Codes*. Through our analysis and findings, we provide insights to understand the play experiences of middle-aged players through *Pokémon GO*. These findings also capture the memorable moments of a massive, unique social phenomenon at its peak from the perspective of a traditionally overlooked demographic.

## Keywords

Pokémon GO, middle-aged players, older gamers, player experience, location-based games, augmented reality

## INTRODUCTION

*Pokémon GO* (Niantic 2016) was the first location-based augmented reality game to become a ubiquitous social phenomenon, reaching a diverse player base due to its vast amount of players (Godfrey 2019). Earlier research on *Pokémon GO* has highlighted its broad appeal to different age demographics (Paavilainen et al. 2017, Alha et al. 2019). This has made it possible to gather a considerable amount of data about the player experiences of less-studied demographics like middle-aged players. What makes this age group even more interesting to study is that, according to some data, it is the least diminishing player group in *Pokémon GO*. For example, in Japan during the first 12 months after *Pokémon GO*'s release, the ratio of 40-year-olds and older players grew from 38% to 48%, while the proportion of players in their 20s and 30s dropped from 62% to 52% (Kyodo 2017).

As recent research demonstrates (see e.g. Brand et al. 2018, Kinnunen et al. 2018, ESA 2018), the demographic profile of players is widening. Furthermore, a growing number of older adults are now playing digital games compared to previous generations (De Schutter & Brown 2016, 29). According to De Schutter (2011, 156), studies analysing older adults' digital play have been rarer than studies on how to encourage them to play in general. Pearce, in one analysis, has studied Baby Boomer

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gamers, who were 40–65-year-old at the time of the study. The findings show that this gamer age group comprised of devoted players with distinct needs and interests, albeit ignored by both the game press and the mainstream game industry. (Pearce 2009, 142.) According to Pearce (2009, 143), this age demographic has been so understudied that we know very little about where and how to capture this gamer group's attention.

Game design literature (e.g. Schell 2008) acknowledges that age is one of the most significant demographic variables, and its relevance has also been noted in player typology research (Hamari & Tuunanen 2014). Specifically focusing on middle-aged players is therefore a particularly fruitful approach because it highlights the experiences of an age group typically understudied in games studies. Due to *Pokémon GO*'s wide appeal and international success as a social phenomenon, middle-aged players have likely been drawn into gaming to a degree that they would not have otherwise. As a result, focusing on the middle-aged players can help unearth the specific experiences of an age group that would not normally be studied to such a degree of depth and based on such broad data.

In 2015, 38.7% of people in their 40s did not play digital entertainment games in Finland, yet in 2018 this number had decreased to 25.9%. In comparison, there were less significant changes in the age groups of people in their 50s (from 56.2% to 56.8%) and 60s (from 66.1% to 59.6%). (Mäyrä et al. 2015, Kinnunen et al. 2018.) According to Statistics Finland (2019), in 2017 the growth in the amount of playing has been largest in the group of over 44-year-olds. It seems that there is a significant new player population emerging. This will also have an effect on the older age groups as these players in their 40s age, since we cannot assume that the middle-aged players of today will turn out like today's older gamers when they reach that age because of generational differences (Brown 2016).

As well as these shifting demographics of game players, scholars are also paying greater attention to the diversity and complexity of game play itself. These studies are extending the focus of game studies towards the experience of playing them – for example in the context of an 'experience economy' (Pine & Gilmore 1999), where companies aim to design memorable experiences for their customers. Commodities, goods, and services are limited in their offerings in the modern society, hence the focus has been turned into offering experiences – especially memorable experiences. As Pine & Gilmore (1999) put it: "*Commodities are fungible, goods tangible, services intangible, and experiences memorable*".

According to Muriel & Crawford (2018, 110), video games can be seen as an experience, specifically an embodied and collective experience. Salen & Zimmerman (2004, 314) view designing experiences as a fundamental principle in game design. However, video gaming is not the experience itself, but one mediated by other factors (Muriel & Crawford 2018, 86). Within game studies over recent years, there has also been a growing recognition of the embodied and situated nature of digital game play (e.g. Apperley 2013, Giddings 2009, Keogh 2018). These approaches recognise that gaming and game play do not happen in a vacuum, but are deeply informed by the everyday, affective nature of play and the context in which it happens. This context encompasses the surrounding environment, atmosphere, moods of players, and the material objects of play themselves – controllers, screens and peripherals (see Keogh 2018: Ch. 3). This approach is particularly relevant to location-based games such as *Pokémon GO*, which are not only played on-the-go like other mobile games, but also incorporate their players' surroundings into the game.

Koskinen et al. (2019) has researched the topic of players' memorable moments with *Pokémon GO* using a wider demographic. This paper concentrates on the experiences of middle-aged players specifically. The aim of this paper is to explore what kind of self-reported memorable experiences were described by middle-aged *Pokémon GO* players and what these revealed about their experiences with location-based augmented reality gaming during the early period of *Pokémon GO*'s release. Asking *Pokémon GO* players about their 'memorable experiences' is likely to capture the aforementioned embodied nature of play: their memories will often relate not only to the in-game characters, objects, and actions but also the physical and social environment and conditions of play.

## METHODS

We designed an online survey focusing on game experiences in *Pokémon GO* in Finland. The survey was launched on September 1st in 2016, was available online for one week, and gathered 2,616 respondents. The survey was distributed on Facebook in 15 Finnish *Pokémon GO* and other related groups, and encouraged respondents to further share the survey. In addition, two Finnish gaming news portals, V2.fi and Dome, advertised the survey. Due to our method of distributing the survey, it can be assumed that the respondents are more active *Pokémon GO* players than the average player population. Since this study was meant to be exploratory, the respondent sample was not aimed to be representative. Due to this being seven weeks after the game's European launch, the survey was able to capture the *Pokémon GO* phenomenon at its peak. Two cases were removed of the responses due to false information and three cases due to technical problems in saving the responses; hence the final data consisted of 2611 survey responses. Respondents' age range was 5–65 years.

The qualitative survey approach was chosen to provide rich and unexpected data on a pervasive phenomenon that has world-wide relevance. An alternative approach could have been doing interview studies locally with younger players in the field, but our approach allowed broader perspective in many ways – making it possible to study the unexpected memorable experiences of middle-aged players, for example.

The survey included a range of questions related to *Pokémon GO*, including both quantitative and qualitative. We have studied the players' positive and negative experiences related to the game (see Paavilainen et al. 2017), why players have started, continued and (if so) quit playing the game (see Alha et al. 2019), and memorable experiences (see Koskinen et al. 2019).

The focus of this study is the open-ended question "Could you tell us a memorable game experience with *Pokémon GO*?"<sup>1</sup> This question was formulated to explore what the respondents themselves experienced as important or "shareable" memories. We decided to use 'memorable game experience' instead of a 'meaningful' one because respondents might have misinterpreted the latter, or it could have resulted in self-judgement about what might be a worthy response, leading the respondents to anticipate what the researchers would like to hear. We also decided to ask for 'a memorable game experience', rather than the respondents' 'most memorable experience' or 'favourite memory' since this could potentially encourage respondents to focus on a memory they think the survey designer would find interesting, rather than what comes immediately to mind. It also leaves space for negative memories, which as Poells et al. (2012) have shown tend to be understudied in games research.

We thematically coded the open-ended answers by using applied thematic analysis (Guest et al. 2012). The data was coded mainly by one researcher with two more researchers joining in specific points in the process. All three researchers started by

coding a sample of the data (n=100) and creating a code guide with names and descriptions for the codes individually. After this phase, the researchers gathered to discuss, compare the codes, and merge similar ones together. One researcher continued to code with the aid of the combined code guide. After a halfway point, the three researchers again coded a sample of the data (n=100) on their own. The resulting codes were compared and discussed, and the code guide was edited accordingly. Previous codes affected by the change were also corrected. No major differences were found between the coding by the three researchers at this point, which allowed one researcher to continue to code the rest of the data by themselves. This approach helped to make sure that the researchers shared a coherent view, and that one researcher was able to code the majority of the data alone, which helped to avoid the time-consuming and high cost process of all three researchers coding the whole data. In addition, using several researchers at specific points in the process enabled pinpointing challenges and issues related to the coding.

We were interested in what kind of memorable experiences middle-aged people as an emerging player group have with *Pokémon GO*. Hence, for this article, 40–65-year-old respondents were separated from the data.<sup>2</sup> This group consisted of 382 respondents. From this group, 20.4% had never played any mobile games, 6.5% had never played computer or console games, and 3.4% had never played any digital games. The question of memorable experience was mandatory to complete the survey, although 33 participants of this group did not report any. These answers we coded as *Invalid*, leaving 349 valid responses. The oldest valid respondent was 63 years old and the average age of the valid respondents was 45.8 years.

Gender			Age			Playing frequency		
	N	%		N	%		N	%
Female	270	70.7%	40–44	194	50.8%	Several times a day	249	65.2%
Male	111	29.1%	45–49	104	27.2%	Once a day	59	15.4%
Other	1	0.3%	50–54	51	13.4%	A few times a week	63	16.5%
			55–59	22	5.8%	More rarely	8	2.1%
			60 or more	11	2.9%	I don't play anymore	3	0.8%

**Table 1:** Demographics.

In total, 117 codes were used to analyse the whole survey data. The codes allowed us to identify commonly recurring themes and keywords, and provided a way to quantitatively measure how common these aspects were in the respondents' memories. These numbers, however, are descriptive and are intended to indicate trends instead of precise values. Due to the large number of codes and the fact that many of them related to only a few responses, in this article we excluded codes that occurred in less than 1% of the valid responses (i.e. 2 or fewer occurrences) for the purposes of brevity. This left 88 codes that were suitable for analysis. The resulting codes and occurrences are presented in the next section. We consider occurrences that appeared at least in 5% (16 or more occurrences) of the cases to be quite significant, 29% being the highest amount of specific cases.

## RESULTS

The 88 codes were sorted into seven categories to help to understand the aspects of the game that the memories were related to. These categories are *Game Play and Game Content*<sup>3</sup>, *People and Sociability*, *Location*, *Negative Events*, *Feelings*, *Circumstances and Context*, and *Other Codes*. The two categories with the largest number of codes – *Game Play and Game Content* and *People and Sociability* – were both divided into subcategories. We have used percentages as a more general

indicator to account for margin of error instead of providing the exact number of occurrences of each code (see Table 2).

Game Play & Game Content					
Game mechanics		Pokémon		Play experience	
Catching	14%	Specific Pokémon	25%	Hardcore	3%
Lure	9%	Rare Pokémon	9%	Newbie	3%
Gym	8%	New Pokémon	7%		
PokéStop	8%	Strong Pokémon	2%		
Hatching	7%	Many Pokémon	2%		
Hunting	6%	No Pokémon	1%		
Finding	5%				
Evolve	3%				
AR (augmented reality)	1%				
Incense	1%				
Level-up	1%				
Lucky egg	1%				
Name	1%				
Nest	1%				
Sightings	1%				
Team	1%				
People & Sociability					
People		Social Interaction		Social Impact	
Children (related)	21%	Strangers	16%	Cross-generation	7%
Children (others)	13%	Game discussion	11%	Hysteria	4%
Many people	8%	Playing together	6%	Community	3%
Friends	5%	Helping	5%	Event	2%
Partner	3%	Boasting	1%	Hype	1%
Youth	3%	Bonding	1%		
Family	1%	Competition	1%		
Group	1%	Making friends	1%		
Parents	1%	Serendipity	1%		
Relatives	1%	Sharing happiness	1%		
Siblings	1%				
Location		Circumstances & Context		Negative Events	
Specific location (meso)	29%	Night	3%	Escape	2%
Specific location (macro)	9%	Weather	3%	Mistake	2%
Specific location (micro)	2%	Work	2%	Bad behavior	1%
Transformation	2%	Cycling	1%	Bug	1%
Travelling	2%	Driving	1%	Injury	1%
Sightseeing	1%	Early days	1%	Out of Poké Balls	1%
		Pet	1%		
		Public transportation	1%		
		Wild animals	1%		
Feelings		Other Codes			
Disappointment	4%	First time	16%	Unexpected	2%
Accomplishment	3%	If not for Pokémon GO	5%	Geocaching	1%
Embarrassment	2%	Funny story	3%	Ingress	1%
Admiration	1%	Reflecting	3%	Nice day	1%
Atmosphere	1%	Exercise	2%	Positivity	1%
Thrill	1%	Spectating	2%		

**Table 2:** List of the categories and the occurrences of the codes.

## Game Play and Game Content

Due to the large number of codes in this quite broad category, for the purposes of discussion we further divided it into three subcategories: *Game Design & Mechanics*, *Pokémon* (which covers the characteristics and encountered amounts of the Pokémon); and *Play Experience*.

The most commonly mentioned game design and mechanics related features were **hunting, finding and catching** Pokémon or **hatching** them from eggs as well as the **lures, gyms** and **PokéStops**, which serve as the key mechanisms for locating and battling Pokémon.<sup>4</sup> **Evolving** Pokémon also received a moderate number of mentions.

Many game design and mechanics related features received only several mentions. **Team**, Pokémon **sightings**, the **lucky egg** which doubles earning XP for 30 minutes, **leveling up**, the optional **AR** (augmented reality) feature, which allows seeing and catching Pokémon against the scenery through phone's camera, **incense** which attracts Pokémon to its user, Pokémon **nests** and **naming** the Pokémon were mentioned more rarely.

The codes of the second subcategory, *Pokémon*, appeared often with the codes from the first one, because many players mentioned looking for, encountering and capturing a **specific Pokémon** that they mentioned by name. Usually these were **rare Pokémon** or a Pokémon that was **new** to the player, or in some cases a **strong** one. There were also several mentions of **many Pokémon** appearing, or on the contrary, about situations where **no Pokémon** could be found.

A rare Pokémon appearing in the middle of eating in a restaurant. I, a mother, stopped eating and caught it. Even though I have always been pedantic about that you don't use the phone in the dining table. (ID 1978, female, 43)<sup>5</sup>

The third subcategory, *Play Experience*, includes different ways players approached and experienced the game. Some players' memories demonstrated '**newbie-ness**': the enthusiasm of a beginner when everything is new and exciting, and the player does not understand the game properly yet, but is slowly starting to learn more. Some players were also quite **hardcore** in their style of play. These respondents were so strongly invested in the game that they played it for long stretches of time, walked long distances just to hunt, catch, and hatch Pokémon, or went to some other extreme measures.

[T]en past midnight while sitting on the church stairs I wondered if there is any sense in this when the alarm clock is going to ring in 6 hours. (ID 1711, male, 48)

## People and Sociability

Like the previous category, due to the large number of codes we further divided *People and Sociability* into three subcategories: *People*; *Social Interaction*; and *Social Impact* of the game.

The subcategory of *People* was used to generally capture who were mentioned in the responses: whom the respondents encountered or played with, and their relationship to the respondents. Most commonly mentioned were children, which was divided into **related children** and **other children**. **Friends** and seeing **many people** gathering in one place to play the game were also often mentioned. A moderate number of players mentioned their **partner** or **youth**. Several mentioned **siblings, parents, family**, other **relatives** and **groups**.<sup>6</sup>

In the *Social Interaction* subcategory, respondents described encountering **strangers** – people they did not know beforehand – and interacting with them while playing the game. Many of these stranger encounters were with **children (others)** or **youth** who were eager to interact with other players. Having something in common to talk about with strangers and familiar people alike, **game related discussion** was often mentioned by the players in addition to **playing together** or **helping** other players with the game. Helping often involved sharing game techniques and tips, for example revealing where some rare Pokémon could be found.

[..] I was walking with my dog and the game was open but I wasn't actively playing (I was just collecting the kilometers). Suddenly three unknown boys around 10 years of age ran to me and asked which team I am in. A long conversation commenced from this, which started from the game and in the end we were discussing everything totally different. These boys walked with me around half an hour, and I don't believe that in any other way we would have found something in common to talk about. (I am a middle-aged man) (ID 1078, male, 44)

A migration of people left the park to go after some rare pokemon. In that same rush went a young man, whose battery bank I was borrowing. So I had to go too, but there were so many people that I lost that young man. Fortunately he had returned to the park. I just remained wondering that what a trust to a stranger, when he borrowed his battery bank to me. Heart-warming. [...] (ID 1294, female, 46)

A few players mentioned **bonding** through playing *Pokémon GO*, or **sharing happiness** in moments where someone else, usually their child, was very excited about the game. A few players also enjoyed the **competition** at gyms or in gathering XP. A couple of players **boasted** how they had caught a specific Pokémon before their friend for instance. A couple of players mentioned **making new friends** while playing or **serendipitously** meeting people they already knew.

The feeling of togetherness with a 15-year-old teenager when we caught some fine pokemon. (ID 184, female, 47)

When my children got their first Snorlax. Their face when I arrived from work to home and they presented the Snorlax they had got, it was a magnificent moment. (ID 1515, female, 42)

Memorable has been the many rendezvouses with my students and their astonishment: "Do ya play Pokemon too!" (ID 21, female, 58)

Within the *Social Impact* category, many respondents paid attention to the **cross-generational** audience *Pokémon GO* had.

Two boys around 10 years of age in the park asked me am I playing too (61-year-old). And of course I said I play. The look on the boys' face was superb when they heard my answer. (ID 168, male, 61)

Above all, the fact that how the game makes the gap between generations disappear and chatting is natural with all the players. (ID 269, female, 51)

Bonding with the children of the same age as mine at the pokestops. Best thing ever! :D (ID 48, female, 41)

Some players mentioned the **hysteria** that could be witnessed especially during the early days of the game. A rare Pokémon appearing in a park with hundreds of people might have caused a stampede when a mass of players were trying to catch that Pokémon.

Players being from across generations and from different backgrounds, some respondents brought up a sense of **community** they were feeling.

At the park in the middle of dozens of young people, sunny day. Takeaway food and own (grown up) children accompanying. The feeling of togetherness was strong. (ID 90, female, 48)

An amusing situation happened at my godson's birthday party when all the kid guests gathered around me. We admired together the Pokémon we had caught and examined items, cp:s and levels. I stood there three heads taller in the middle of a group of 10-year-olds, but as one of them – and we all were as excited! (ID 2240, female, 45)

Several players mention *Pokémon GO* themed **events** in their memorable experiences. A handful of players mentioned **hype**: In the early days, everybody seemed to be happy, communal and interacting with each other while playing.

## Location

When the players mentioned a **specific location**, the responses were coded based on three general types of location: **micro**, **meso**, and **macro** level sites. 'Micro' refers to very specific locations, such as a living room or a table at the workplace. 'Macro' includes the city, town, region or country mentioned in the memory. 'Meso' refers to the sites in-between these two levels. The meso level was distinctly the largest category of these, and it was also the code with the overall largest number of occurrences in this data.

Several respondents described **travelling** specifically to hunt Pokémon or catching Pokémon while they were travelling for other reasons. Several also mentioned **sightseeing** while playing the game, discovering new places even in their own hometown. Several players described a **transformation** of a normally empty place suddenly being full of *Pokémon GO* players, or a familiar location being otherwise transformed by the presence of players.

[I] have visited unfamiliar cities to play and at the same time have learned to know places in which I would have not visited otherwise. (ID 607, female, 47)

[..] [T]hose experiences I've had when I have explored and seen my hometown with totally different eyes – I've seen many beautiful places I didn't even know about. [..] (ID 1464, female, 42)

[..] Dozens of players have gathered in the night at a lure in a small town harbour – otherwise the harbour is totally dead place during fall. (ID 1041, male, 45)

## Circumstances and Context

This category includes the conditions and contexts that took place in the memories described. Some discussed the **weather**, whether it was especially nice or memorably bad. A couple of respondents questioned themselves for voluntarily playing in the rain. Some players' memorable experiences took place during **nighttime**.

Several respondents played at **work**, or while commuting. A handful of players' memories were about the **early days** of the game during its launch period in Finland when a huge number of people were on the move playing the game. A few players' memories included **pets** or encountering **wild animals** like hedgehogs. Some players had experiences playing in **public transportation** or from the car while **driving** or parked, or hunting Pokémon by **bicycling**.

### Negative Events

Several players described how a Pokémon they wanted to catch **escaped**. Respondents also mentioned making **mistakes** while playing the game, like dropping and breaking their phone or pushing a wrong button, resulting in an accidental use of a lucky egg. Several players also mentioned server errors and other **bug**-like issues common in the early days of *Pokémon GO*. Few players were either **out of Poké Balls** when a specific Pokémon appeared or ran out of them while trying to catch it. A couple mentioned **bad behavior** related to playing either from their side or by someone else, or getting minor **injuries** while playing.

Police stopped me due to careless driving. I was playing as I drove. (Embarrassing.) (ID 268, female, 50)

I was almost run over by a cyclist as I rushed to search for a Pokémon. I was embarrassed at work as I had to catch Pokémon during the working hours. (ID 600, Female, 40)

### Feelings

Some players felt **disappointment** sometimes concurrently with the negative events mentioned earlier, like Pokémon escaping, or having to start the game from the beginning due to a bug. A moderate number of players felt **accomplishment** related to, for example, conquering a gym alone or hunting down and catching a specific Pokémon. A handful of players described **embarrassment** related to playing the game. Several players experienced **thrill** especially related to first times playing the game. A few mentioned the **atmosphere** of many people sitting in the dark quietly and playing, or the **admiration** the respondents got from the young players.

I'm a class teacher. The students are astonished that the teacher plays Pokemon. We have a competition on who catches me. I have nice chats daily with students of different ages. So far I have the biggest Pokemon and the "admiration" is in accordance with that. (ID 507, male, 53)

### Other Codes

Some features that came up multiple times in the players' memorable experiences did not fit properly into any of the created categories. Many players reminisced a moment when they did something for the **first time**, whether it was for instance finding or catching a specific Pokémon, conquering a gym, or hatching their first 10km egg. Many players also discussed moments when the game made them do things that they would not normally do – which we coded as **if not for Pokémon GO**. This could mean, for instance, walking more than they normally would just to catch more Pokémon.

At the airport I walked back and forth the aisle so that I would get balls from the pokestop. An adult person doesn't do that. (ID 272, female, 55)

My teenage child preferred going out to play with her mother on a Friday night instead of staying with her friends loitering. (ID 71, female, 40)

A moderate number of the respondents' memorable experiences were **funny stories** related to diverse topics, for example playing while doing groceries or leaving to conquer a gym in the middle of bar night; or players **reflecting** on the impact of the game, for instance on the way people interact.

My wife was testing the game and with around ten throws couldn't catch her first pokemon whereupon our 3-year-old toddler tried and caught it with first throw, and the next three pokemon also with the first throw. (ID 1046, male, 42)

[..] I realized how much the game has changed: it has made it possible to chat on the street with a stranger of a different age, about a topic that is interesting for both. People are looking at their phones and smiling to each other. (ID 2484, female, 44)

Several players' memorable moments were about them or someone else getting **exercise** while playing, or **spectating** other players, often this being admiring how parents and children are playing together.

Nowadays I gladly wake up early in the morning and utilize the morning moments either for a morning walk to hatch eggs or I'll leave for work especially early so I can do pokemon walk tours in the city; I visit pokéstops, try out gyms and do better pokemon-findings. It's delightful how this motivates to move!! (ID 271, female, 45)

I saw a father playing Pokémon together with his small children. Then it crossed my mind how I wish Pokémon would have existed already then when my own children were little, that's how nice it seemed. (ID 1322, female, 63)

Several players also faced **unexpected** events while playing, mostly encountering a rare Pokémon when they did not expect to find one, or noticing various **positive** consequences of the game.

[..] In the summer I was hunting pokemon with my son, and instead of returning home by car with me, he wanted to walk. This is a very big change, because in around four years he hasn't moved except to school and to home. [..] (ID 1294, female, 46)

A couple of players' memories were related to a **nice day** during which Pokémon was played among other things like having dinner together. A couple of respondents' memories were related to **ingress** or **geocaching**, activities quite similar to *Pokémon GO*.

## DISCUSSION

Since 20.4% of the respondents claimed that they have never played mobile games, this means that to some of these players, *Pokémon GO* is the first mobile game they have played. Since *Pokémon GO* is a location-based game, the player experiences also differentiate from those of regular mobile games. Many of the memorable experiences with *Pokémon GO* were not related to the contents of the game, but the social situations enabled by it.

When comparing this data of the middle-aged players to the whole data of the chosen survey question (Koskinen et al. 2019) there are some differences. The most significant one is the amount of occurrences of **children (related)**, which is relatively higher (14 percentage points) in the data of middle-aged players. This is to be

expected, since people in this age group might often be parents themselves. In the whole research data, when specifically asked if the players played with their children (regardless of whether or not they had any of their own), 75.9% of players claimed that they never did, but in the middle-aged players' data only 35.6% said that they never play with their children. **Cross-generational** gaming can be viewed as a means to foster relationships and overcome differences between younger and older players (Comunello & Mulargia 2017), and this is likely a more significant factor for middle-aged players with children or young grandchildren.

The feeling of togetherness with a 15-year-old teenager when we caught some fine pokemon. (ID 184, female, 47)

Since many memories included respondents' children, this might explain why the relative amount of mentions about **friends** was lower (5 percentage points) compared to the whole data. This came up also when players were specifically asked how often they play with friends: 46.1% of middle-aged players never played with friends, when in the whole data this was only 21.8%.

In addition, there were relatively more mentions (5 percentage points) about interaction with **children (others)**. This might be because middle-aged people might not have many reasons to interact with this age group beyond their own children, but the game gives a possibility to share something in common between different generations, and that makes these moments memorable.

Memorable is also the kindness of other players and the easy-going attitude of youth towards a little older player. (ID 2407, female, 52)

The second biggest difference was related to the amount of occurrences of **specific Pokémon**, which was relatively lower (10 percentage points) in the data of middle-aged players. This might be due to the fact that these respondents who were 40–65 years old at the time of the survey were adults back when Pokémon animation was first seen in Finnish television in 1999. This also might be the reason for not having such nostalgic feelings towards specific Pokémon, since these players were not the target audience of the animation or the games that became popular afterwards in Finland. Yet, the Pokémon franchise and fandom have been found to be the most common reasons to adopt *Pokémon GO* (Alha et al. 2019). An interesting next step would be to study why these middle-aged people started to play *Pokémon GO*, if they have not ever really been the actual target audience of the brand. Were they still influenced by it since it is so ubiquitous?

Outside direct comparisons with the overall data, another interesting finding was when players questioned their behavior while playing the game, sometimes directly relating to their age or being an adult with certain responsibilities. These mentions came up especially related to the **hardcore** style of playing and things that the players would not have done **if not for Pokémon GO**. Catching Pokémon at the restaurant in the middle of dinner, playing *Pokémon GO* late when going to work next day, and walking back and forth at the airport to get Poké Balls were mentioned earlier in the respondent quotes. These quotes and the small but significant occurrence of the **hardcore** code suggest that, although *Pokémon GO* is a casual game, many players – even adults – were compelled to play it in a more 'hardcore' fashion at times. Although this paper cannot test this hypothesis further, it does raise the possibility that *Pokémon GO* was able to ingrain itself deeply in the lives of even middle-aged players, and likely those who would not devote so much time and effort to a single game. An area for future research is to explore the extent to which casual games like *Pokémon GO* might draw different demographics into a hardcore style of play.

The focus on middle-aged players in this article also gives us some unique data not just about their positive and unexpected experiences, but negative experiences as well – which, as we noted above, have been understudied in games research (Poels et al. 2012). This study revealed interesting examples of various negative experiences from the middle-aged players – again, typically not studied in this context. From the typical examples on frustrations due to escaping Pokémon or dropping mobile phones on the pavement, the middle-age players were willingly taking severe risks for the sake of the game. Playing while driving, running under cyclists, or jumping over fences and getting hurt are examples from the physical dangers. Especially playing while driving can have catastrophic consequences, as one respondent who was caught by the police noted. The adult players were also willing to take reputational risks as they reported being embarrassed while playing at the workplace or hiding their play from their children. Studying the negative experiences of location-based games in more depth would be an interesting topic for future research, and this data provides some direction towards how middle-aged players perceive these. It is of particular note that many examples were less to do with the game design itself, but the everyday environment and the device on which it is played, something unique to location-based games.

## CONCLUSIONS

*Pokémon GO* was an enormous social phenomenon, fundamentally challenging how we think about the role and meaning of games in contemporary society (Mäyrä 2017, Ruffino 2018). At the same time, as our discussion of the survey findings shows, it opened up new gaming experiences to middle-aged players who might not invest as much time or effort into one specific game. As demonstrated by our discussion of the cross-generational interaction between middle-aged and younger players, the sometimes hardcore actions undertaken by middle-aged players and the specific nuances of their negative experiences, *Pokémon GO* had a widespread impact on the accessibility and everyday experiences of games for players of this age group.

When designing location-based games for middle-aged players, it is important to take into consideration that the game is something that also their children are able to play. Otherwise, they might not have the time or the resources to play it. Enhancing interaction between generations creates memorable moments. One possible direction for future research would be taking a closer look at the cross-generational interaction in *Pokémon GO*, not only with relatives but also with acquaintances met while playing. When it comes to branding, it seems *Pokémon GO* was familiar enough or easy to approach even when these players have not been the brand's target audience. These qualities need to be taken into account when targeting middle-aged players.

This study sheds light on what kind of play related experiences an emerging but under-researched player demographic – middle-aged players – consider memorable when playing digital games, especially location-based augmented reality games. It also manages to capture memorable moments of the unique social phenomenon that *Pokémon GO* was at its peak. These insights are useful to industry practitioners who aim to consider this age group when catering for players and wanting to create them memorable experiences around the game.

## ENDNOTES

1 Translated from Finnish.

2 Although a common understanding of the middle-aged demographic is 45-65, we have chosen to broaden this to 40-65, using the half-way point of life expectancy (approx. 80) for people of this age group.

3 Game play is defined here as separate from the game content, as it is a verb that refers to the player activity and behaviour while playing the game.

4 For clarity, the codes used are indicated with bold text.

5 All the quotes by respondents have been translated from Finnish. Survey participants are indicated after the quotes by an ID number, gender and age.

6 In our coding, **children (related)** has been defined as players' own children and child relatives (niece, nephew, grandchild, godchild). **Children (others)** means non-related children. **Partner** means boyfriend, girlfriend, spouse, husband or wife. We defined **youth** as young people who were not described as children by the respondents. We used **family** when the respondent did not describe the family members more specifically. **Relatives** was used when other related people like nieces, nephews, uncles, aunts, grandparents, cousins or in-laws were mentioned. We coded **group** when the respondent mentioned being with a group of people.

## BIBLIOGRAPHY

Alha, K., Koskinen, E., Paavilainen, J. and Hamari, J. 2019. "Why do people play location-based augmented reality games: A study on Pokémon GO." *Computers in Human Behavior* 93:114-122 <https://doi.org/10.1016/j.chb.2018.12.008>

Apperley, T. 2013. The Body of the Gamer: Game Art and Gestural Excess. *Digital Creativity* 24(2), 145-156.

Brand, J. E., Todhunter, S. and Jervis, J. 2018. *Digital Australia Report 2018*. Eveleigh, N.S.W.: Interactive Games & Entertainment Association. <https://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf>

Brown, J. A. 2016. "Exploring the Next Generation of Older Gamers: Middle-Aged Gamers." In *Human Aspects of IT for the Aged Population. Healthy and Active Aging*, edited by Jia Zhou and Gavriel Salvendy. ITAP 2016. Lecture Notes in Computer Science, vol 9755. Springer, Cham [https://link.springer.com/chapter/10.1007/978-3-319-39949-2\\_30](https://link.springer.com/chapter/10.1007/978-3-319-39949-2_30)

Comunello, F. and Mulargia, S. 2017. "My Grandpa and I "Gotta Catch 'Em All." A Research Design on Intergenerational Gaming Focusing on Pokémon Go" In *Human Aspects of IT for the Aged Population. Applications, Services and Contexts*, edited by Jia Zhou and Gavriel Salvendy, 228–241. ITAP 2017. Lecture Notes in Computer Science, vol 10298. Springer, Cham [https://doi.org/10.1007/978-3-319-58536-9\\_19](https://doi.org/10.1007/978-3-319-58536-9_19)

De Schutter, B. and Brown, J. A. 2016. "Digital Games as a Source of Enjoyment in Later Life." *Games and Culture*, 11(1–2), 28–52. <https://doi.org/10.1177/1555412015594273>

De Schutter, B. 2011. "Never Too Old to Play: The Appeal of Digital Games to an Older Audience." *Games and Culture*, 6(2), 155–170. <http://journals.sagepub.com/doi/pdf/10.1177/1555412010364978>

Entertainment Software Association (ESA). 2018. *2018 Sales, Demographic, and Usage data. Essential Facts About the Computer and Video Game Industry*. [www.theesa.com/wp-content/uploads/2018/05/EF2018\\_FINAL.pdf](http://www.theesa.com/wp-content/uploads/2018/05/EF2018_FINAL.pdf)

Godfrey, C. 2019. "Detective Pikachu and the Case of the Highest Grossing Media Franchise of All Time." *The Guardian*, 9 May.

<https://www.theguardian.com/global/2019/may/09/gotta-catch-em-all-over-again-the-return-of-pokemania>

- Guest, G., MacQueen, K. M. and Namey, E.E. 2012. *Applied thematic analysis*. SAGE Publications, Inc.
- Hamari, J. and Tuunanen, J. 2014. "Player Types: A Meta-Synthesis." *Transactions of the Digital Games Research Association*, 1 (2), 29–53.
- Kinnunen, J., Lilja, P. and Mäyrä, F. *Pelaajabarometri 2018: Monimuotoistuva mobiilipelaaminen*. Tampere University. <http://tampub.uta.fi/handle/10024/104293>
- Koskinen, E., Leorke, D., Alha, K. and Paavilainen J. 2019. "Player Experiences in Location-based Games: Memorable Moments with Pokémon GO." In: Geroimenko V. (eds) *Augmented Reality Games I*. Springer, Cham.
- Kyodo. 2017. "Pokemon Go' turns into a fitness tool for Japan's middle-aged." *The Japan Times*.  
<https://www.japantimes.co.jp/news/2017/07/15/national/pokemon-go-turns-fitness-tool-japans-middle-aged/#.XD3Uv81S-M8>
- Niantic. 2016. *Pokémon GO*. Mobile Game. Niantic.
- Muriel D. & Crawford G., ed. 2018. *Video Games as Culture. Considering the Role and Importance of Video Games in Contemporary Society*. Routledge.
- Mäyrä, F. 2017. "Pokémon GO: Entering the Ludic Society." *Mobile Media & Communication*, 5(1), 47–50. <https://doi.org/10.1177/2050157916678270>
- Mäyrä, F., Karvinen, J. and Ermi, L. 2015. *Pelaajabarometri 2015 : Lajityyppien suosio*. Tampere University. <http://tampub.uta.fi/handle/10024/99003>
- Paavilainen, J., Korhonen, H., Alha, K., Stenros, J., Koskinen, E., and Mäyrä, F. 2017. "The Pokémon GO Experience: A Location-Based Augmented Reality Mobile Game Goes Mainstream." In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, ACM. <https://dl.acm.org/citation.cfm?doid=3025453.3025871>
- Pearce, C. 2008. "The Truth About Baby Boomer Gamers: A Study of Over-Forty Computer Game Players." *Games and Culture*, 3(2), 142–174. <https://doi.org/10.1177/1555412008314132>
- Pine, J. and Gilmore, J. 1999. *The Experience Economy*. Harvard Business School Press, Boston, MA.
- Poels, K., de Kort, Y. and IJsselstein, W. 2012. "Identification and Categorization of Digital Game Experiences: A Qualitative Study Integrating Theoretical Insights and Player Perspectives". *Westminster Papers in Communication and Culture*, (9)1.
- Ruffino, P. 2018. *Future Gaming: Creative Interventions in Video Game Culture*. Cambridge, M.A.: MIT Press.
- Schell, J. 2008. *The Art of Game Design: A Book of Lenses*. Morgan Kaufmann, Burlington, MA.
- Statistics Finland. 2019. "Digitaalisten pelien pelaaminen nelinkertaistunut 25 vuodessa." 31 January. [http://www.stat.fi/til/vpa/2017/02/vpa\\_2017\\_02\\_2019-01-31\\_tie\\_001\\_fi.html](http://www.stat.fi/til/vpa/2017/02/vpa_2017_02_2019-01-31_tie_001_fi.html)