

# Framing Affordances

*A Study of how Pokémon Go is Framed in the Media as Affording Healthier Behaviour*



Kelly Gitsels, 5512522

Master New Media and Digital Culture

Utrecht University



Utrecht University

# **Framing Affordances**

*A Study of how Pokémon Go Is Framed in the Media as Affording Healthier Behaviour*

Kelly Gitsels, 5512522

Master New Media and Digital Culture

Humanities

Utrecht University

First reader: Dr. Anne Kustritz

Second reader: Dr. Stefan Werning

Date: 05-11-2017



**Utrecht University**

## Summary

In a selection of media articles, the mobile game Pokémon Go is discussed as affording a healthier lifestyle. This is achieved by framing it as providing players with the opportunity to exercise. However, the long-term health results of playing the game have not been proven. The aim of this research is not to find out whether this can be proven or not, but to understand where this perception of the purpose of the game derives from. The study was therefore executed on the basis of the following research question: What can an investigation of the connections made between Pokémon Go and healthier lifestyles in a sample of popular press articles show concerning the perception of affordances? A selection of popular media articles was studied in which Pokémon Go was described as affording healthier behaviour among players. A combination of textual analysis and framing theory was used to show that the authors describe such behaviour as a consequence of specific elements of Pokémon Go, such as the need to go outside to find Pokémon. As the research question already indicates, affordance theory was involved in the research. This theory describes how objects facilitate actions and imply a user who can execute them. It was then analysed to what extent the claims of the journalists could be related to affordances of the game and to what extent these claims could be based on frames. The results showed that the proposed notion of 'framed affordances' facilitates the understanding that the implied connection between object and user could be a result of framing, as journalists are likely to interpret affordances of Pokémon Go on the basis of how they observe the game. 'Framed affordances' are therefore not a form of affordances, but a tool to study how observers of affordances imply what kind of behaviour these affordances might result in. The concept could be used to facilitate insight into where the framing of health games in the media derives from. Foucault's concepts of discourse and bio-politics were involved in this study to facilitate a possible explanation of where a frame derives from and to enable a more extensive insight into how the observation of an affordance might be determined. As this study explored the role of frames in only one sample of texts, it must be noted that other studies might detect other ways of framing. This study is therefore not to be used to understand how health games are framed; rather, it can function as a model for comparable studies investigating whether the connection between mobile games and health is based on frames.

Keywords: *affordances, framing, health, Pokémon Go, journalism, mobile games*

## **Table of contents**

<b>1 INTRODUCTION</b> .....	<b>1</b>
1.1 PROBLEM STATEMENT .....	1
1.2 OBJECTIVES .....	3
1.3 THESIS OUTLINE.....	4
<b>2 FRAMED AFFORDANCES</b> .....	<b>6</b>
2.1 AFFORDANCE THEORY .....	6
2.2 GAMES AND EXERCISE .....	8
2.3 HEALTH DISCOURSE.....	9
<b>3 FRAMES IN TEXTS</b> .....	<b>11</b>
3.1 TEXTUAL ANALYSIS .....	11
3.1.1 Framing theory.....	11
3.2 SELECTION OF THE CORPUS .....	13
<b>4 POKÉMON GO AND HEALTHIER BEHAVIOUR</b> .....	<b>15</b>
4.1 POKÉMON GO AND MEDIA ARTICLES.....	15
4.1.1 Implying causalities: Walking, exercise and health.....	15
4.1.2 Implying causalities: Going outside and interaction.....	16
4.1.3 Implying causalities: Pokémon Go and health risks .....	17
4.2 POKÉMON GO AND AFFORDANCES .....	18
4.3 POKÉMON GO AND FRAMES .....	20
<b>5 CONCLUSION</b> .....	<b>23</b>
<b>6 DISCUSSING THE FINDINGS</b> .....	<b>24</b>
<b>BIBLIOGRAPHY</b> .....	<b>26</b>

# 1 Introduction

Pokémon is a Japanese children's game and television programme that is about travelling and catching pocket monsters called 'Pokémon' (Buckingham and Sefton-Green 2003; Vasquez 2003; Allison 2009). The story is set around an eleven-year-old Pokémon trainer and collector, Ash, who travels the world with his friends to find new Pokémon (Allison 2002; Buckingham and Sefton-Green 2003). According to Anne Allison, a professor of cultural anthropology, Pokémon can be compared to pets, or even friends, that represent life and nature (2002; 2009). The series started with 151 of these monsters, but new Pokémon are introduced throughout the show. The main purpose in both the game and the show is to collect as many Pokémon as possible (Allison 2002).

The Pokémon concept was developed by video game designer Tajiri Satoshi and is financed by the electronics and software company Nintendo (Buckingham and Sefton-Green 2003). In 1996, the concept was released in Japan as a Game Boy game, card game and television show (Allison 2009). Two years later, Pokémon was first brought to the United States, where it immediately gained popularity. In the year 2000, the game was on the market in 70 countries, and the television show was broadcast in over 50 countries.

On July 6, 2016, the U.S. software development company Niantic Inc. released Pokémon as an augmented reality game in the form of an app called Pokémon Go. According to the Pokémon Go website, this game encourages players to go outside to catch Pokémon (Pokémon Go n.d.). The user creates a personal avatar that walks around on a digital map that displays PokéStops, gyms and Pokémon. Gyms can be conquered, PokéStops are where Pokéballs can be collected, and Pokéballs can be used to catch Pokémon. The player walks outside, using the map, while GPS allows the avatar to follow the player's route. The player's smartphone vibrates when a Pokémon is nearby. The chances of finding one increases when a player adds a 'lure module' to a PokéStop, as these attract more Pokémon. A Pokémon can be caught on the player's smartphone from a first-person perspective and by turning on the augmented reality feature, the Pokémon seems to appear in the real world.

## 1.1 Problem statement

After the release of Pokémon Go, various statements regarding the game were made by the media. Among other things, it was said that Pokémon Go is beneficial for players' health because it provides players with an opportunity to go outside and walk around. However,

even if this is true, the long-term health effects of the game have yet to be proven scientifically. There may thus be a difference between the actual health effects of playing Pokémon Go and the benefits that are implied in the media.

The aim of this research is to determine how the opinion that features of Pokémon Go afford healthier behaviour among players is framed in a sample of popular press articles. In this study, game features are studied as ‘affordances’. Psychologist James J. Gibson introduced the concept of affordances as actions that are facilitated by objects and that can be executed by users (2015). Within this definition, the object and the subject are equal factors that depend on each other.

This study is conducted on the basis of the following research question: What can an investigation of the connections made between Pokémon Go and healthier lifestyles in a sample of popular press articles show concerning the perception of affordances? It needs to be noted that in the studied articles the journalists do not explicitly refer to affordances, but that the connection they create between Pokémon Go and behaviour is similar to the definition of affordance theory, as discussed in Section 2.

In this study, it is hypothesised that the connection between Pokémon Go and health that is made in the selected articles, is a result of frames of the journalists. It is assumed that the frames determine how the journalists observe and interpret the game and connect Pokémon Go to exercise and health.

To structure this research, the main question is divided into two sub-questions. The first sub-question is: How could healthier behaviour, as described in a sample of popular press articles, be related to the affordances of Pokémon Go? A combination of textual analysis and framing theory makes it possible to study how healthier behaviour is discussed in the selected articles. To subject these results to a description of how Pokémon Go is played allows to determine how the claims of the journalists could relate to the affordances of the game.

The answer to the first sub-question makes it possible to answer the second sub-question: What might the media portrayal of Pokémon Go as facilitating healthier behaviour indicate about the framing of affordances? The concept of framed affordances makes it possible to explore how the connection between affordances of Pokémon Go and healthy behaviour could depend on the frames of the journalists.

## 1.2 Objectives

The aim of this study is to gain insight into the framing of the affordances of digital objects. More specifically, this study considers how Pokémon Go is presented by journalists as affording healthier behaviour. It is important to determine to what extent the framing of the affordances of digital objects are a matter of perception or interpretation by journalists, instead of being based on facts derived from actual long-term research.

The scientific relevance of this study arises from how affordance theory is currently theorised. William Gaver and Donald Norman, for example, have concluded in their respective studies that the interpretation and use of affordances is a matter of user subjectivity (Gaver 1991; Norman 1999). They argue that subjectivity determines how an object and its affordances are interpreted and executed by the user. What is omitted, however, in the studies concerning affordances is how the behaviour afforded by an object is framed and discussed by people – such as journalists – who do not necessarily use the object but merely observe how others use it. Gibson does address the role of other people besides the user in an environment (2015). However, he describes them as living objects with affordances. The aim of this study is to explore how people in an environment can be observers of the interaction between user and object rather than to be the user or the object.

The use of framing theory in this study contributes to the current definition of affordance theory as it shows that the interaction between user and object could be determined by the observations of other people. For example, journalists can frame Pokémon Go as a game that can be played to develop a healthier lifestyle. This could convince players to play the game for this specific purpose. In that case, the affordances of the game might be used differently than when the user plays the game with another intention. The critical point is that the health benefits are not proven to exist; there could possibly be no results concerning health.

This research accordingly aims to add a new concept to affordance theory. Instead of describing a new kind of affordance, this concept demonstrates that the use of an object is not only the result of the interpretation of that object, but could also be due to framing in the media. This concept is referred to as ‘framed affordances’. Framed affordances are explored further in Section 2, where the concept is shown to partially overlap with the notion of ‘hidden affordances’. According to William Gaver, a professor of design, these are affordances that are not recognised by the user (1991). Although the concept of framed affordances facilitates the study of affordances that *are* recognised, both concepts focus on the

perception of an affordance. The difference is that the contribution of framed affordances to affordance theory allows for the study of a perceiver who is not a user.

The relevance of this study also derives from its historic positioning. Michel Foucault discusses the concept of bio-politics (1978). He defines this as the idea that the health of individual citizens needs to be regulated by the government. This study adds to the original concept that this task might have moved to journalists as they discuss how people can improve their health by playing Pokémon Go. A possible explanation could be that digital media make it possible to easily spread ideas among other people and that the government is no longer needed to do this.

### **1.3 Thesis outline**

In Section 2, affordance theory is discussed based on the work of psychologist James J. Gibson, Donald Norman (a professor of design and innovation) and William Gaver (a professor of design). This is useful, as the journalists in the studied articles do not explicitly refer to the affordances of Pokémon Go. This theory can help to find similarities between the content of the texts and elements of the game.

However, as this study aims to explore the role of framing in observing and interpreting affordances, affordance theory is not sufficient to answer the main question. Therefore, the notion of framed affordances is proposed as useful when studying how the affordances of a mobile object are discussed in the media. This notion is a first step towards studying how Pokémon Go is framed in a sample of popular online press articles. The second part of Section 2 introduces the concept of ‘exergames’. Following the work of Baranowski et al. and game theorist Bill Ferguson, this study is posited as part of a broader debate concerning mobile games that might be used to facilitate healthier behaviour (2008; 2012).

This section further explores the role of discourse in this study. It turns out on the basis of Michel Foucault that the framing of Pokémon Go could be situated in health discourse. In combination with bio-politics, health discourse could explain that the framing of Pokémon Go as a health game could derive from a tradition of taking care of the health of citizens.

Section 3 discusses the method used in this research: textual analysis. The definition of textual analysis provided by Sharon Lockyer, a lecturer in media studies at Brunel University in London, illustrates that this method facilitates the study of the content and meaning of texts by studying their construction (Lockyer 2008). However, a guideline is needed that makes it



possible to focus on specific elements of a text. The guideline used in this research is framing theory. It facilitates, according to Dennis Chong and James N. Druckman, the study of the content of an article as the framing of a statement (2007).

Section 4 covers the findings of this study. In the first subsection, the selected articles are analysed on the basis of framing theory to find claims about healthy behaviour. It is shown that the authors seem to imply a causal connection between such behaviour and Pokémon Go encouraging players to walk.

The second subsection analyses how the findings from the previous subsection could relate to the affordances of Pokémon Go. It is shown that Pokémon Go does facilitate the behaviour the authors describe, because that is how the game is played. However, the health consequences the journalists list could exist, but they could also be a result of framing. Frames or discourses about health could influence how the journalists link the game to exercise.

Section 5 provides a conclusion based on the findings in Section 4 and the main question is answered. The implied causality between Pokémon Go and healthy behaviour is shown to be a likely result of interpretation of the game and framing by journalists. The results are discussed in Section 6. Here it is indicated that comparable studies could show varying results, as different frames might be found when studying a different research corpus concerning Pokémon Go. It is therefore recommended within future research concerning exergames that it is taken into account that the findings could be determined by the frame that is studied.

## **2 Framed affordances**

To study how the affordances of Pokémon Go are framed in the media as facilitating healthier behaviour, this study requires a theoretical framework that makes it possible to understand what affordances are and what their role could be in terms of health games.

This section therefore begins by discussing affordance theory. On the basis of the work of various theorists, a distinction can be made between the actual purpose of an affordance and what users think the purpose of an affordance is. However, this theory does not facilitate an investigation of why users interpret affordances in certain ways. In this study, it is assumed that this interpretation could depend on how affordances are framed and discussed by the media. Therefore, the concept of framed affordances is introduced in this section. It allows a study of how affordances and their behavioural consequences are framed by journalists.

The second part of this section covers health games. There is a scientific debate questioning whether games can facilitate healthy behaviour. This indicates that journalists discussing Pokémon Go are part of a larger debate in which games are framed as educational if used in the correct way. It also shows a potential frame from which the health benefits of Pokémon Go could be discussed. On the basis of Foucault's bio-politics, it is shown that journalists frame Pokémon Go as developing healthier behaviour because they could be part of a historic tradition that includes the opinion that the health of individuals needs to be regulated.

### **2.1 Affordance theory**

A general definition of 'affordances' that can be used as a starting point for this study is based on a combination of definitions proposed by James J. Gibson, Donald Norman and William Gaver. James J. Gibson described an affordance as the action an environment affords for its users (2015). Such an environment can consist of tools, terrains or other people. According to Gibson, all of these elements in an environment have their own specific affordances, but a user is needed to execute them. This means that affordances imply a relationship between the object and the subject in which the two are able to use and complement each other.

This definition shows that there could be a difference between Pokémon Go affording players the opportunity to exercise and players actually exercising. The reason for this distinction is that players are subjects who are able to choose whether they appeal to certain

affordances. An affordance of the game, namely facilitating exercise, can therefore exist without being used.

However, this study requires more than a framework that explains that behaviour and affordance are not automatically connected. It also requires a framework that discusses different forms of affordances. Such a framework could explain why affordances are not necessarily executed.

Donald Norman divides affordances into two groups: actual affordances and perceived affordances (1999). *Actual affordances* are all the affordances that are provided by an object. *Perceived affordances* are affordances that users believe to be the actual affordances of an object on the basis of their observations. This is an important distinction to keep in mind when studying how the affordances of Pokémon Go are covered in the media, because it shows that the affordances that are discussed by journalists could be a result of observations. The game might actually afford something completely different that is unrelated to exercising.

What remains unclear about the definition of perceived affordances is whether they should be defined as a selection of the actual affordances or if they are affordances that do not provide any action at all. This question could be explored further on the basis of William Gaver's definition of affordances. He describes three types of affordances. First, *perceptible affordances* are the affordances of an object that are understood by the user on the basis of sensory information (1991). Secondly, *hidden affordances* as affordances that are contained by an object but not observed by the user. Finally, *false affordances* are non-existent affordances that the user believes are part of an object.

William Gaver's distinction between various types of affordances shows that the connection between object and subject depends on interpretation by the subject and that this could lead to misinterpretation of an affordance. This is relevant when studying how the affordances of Pokémon Go are framed, because it shows that affordances can be interpreted in various, and possibly unintended, ways. Again, the aim of this study is not to determine how affordances of Pokémon Go should be interpreted, but based on Gaver's definition it should be acknowledged that affordances can be interpreted in different ways. When studying the behavioural effects of health games, this should be taken into consideration, because different interpretations could lead to different results.

Although the theories discussed above show that the perception of affordances is a matter of subjectivity, this study still requires a concept that will allow for an examination of how this perception is influenced. Journalists are not necessarily the users of an object; it is

possible for them to merely observe and then frame the connection between the object and users. Journalists could in that case be considered as part of the environment, as was described by Gibson (2015). How they observe the game and describe the findings in the media could be the result of already existent frames, such as the idea that games can be used to increase healthy behaviour.

As the current definition of affordance theory does not include a study of the source of different perceptions of affordances, the concept of framed affordances is proposed in this study. This notion is used to explore why affordances are framed in a specific way. This also includes affordances that are not referred to explicitly. In this study it is assumed that frames influence observations of affordances by journalists. This means that – apart from objects and users – there is a third party that influences how affordances are perceived, as the framing of Pokémon Go is spread by the media and could influence the perceptions of others.

Gibson already mentioned that other human beings could be part of the environment (2015). He described them as objects that can afford certain behaviour for the user. This study, however, explores these human beings as subjects who are able to discuss another object and influence the user. The concept of framed affordances adds to affordance theory that to study how affordances are framed, could lead to a more detailed insight of how an environment could influence the interaction between user and object. This study does not explore the influence of one subject, but it studies how the media frame Pokémon Go.

## **2.2 Games and exercise**

Baranowski et al., propose combining health games with digital devices, which could lead to the development of digital health games (2008). They argue that digital games are played by large numbers of young people, which means that such a combination could increase the possibility of developing healthier behaviour in this group.

Game theorist Bill Ferguson argues that games can be helpful in teaching people how to take better care of themselves (2012). Ferguson notes that an effective way to achieve this purpose is to combine educational elements with game elements, which would enable players to have fun while learning something about healthy behaviour. Grimes, Grinter and Kantroo have also studied the connection between education and gaming and they call this combination ‘exergames’ (2010). They describe exergames as games that can be used to create healthier lifestyles by requiring players to perform physical exercise while playing a game.

The studies that recommend a combination of gaming and exercising show that the framing of Pokémon Go as a facilitator of healthier behaviour is not isolated. Instead, it exists within a larger framework of both academics and journalists who have discussed the connection between gaming and education and its possible health benefits. In combination with affordance theory, the concept of exergames makes it possible to understand how specific elements of Pokémon Go are interpreted by journalists as facilitating healthy behaviour.

### **2.3 Health discourse**

The debate concerning exergames could be part of a discourse. According to French philosopher Michel Foucault, a variety of discourses could be recognised in society (1972). He describes a discourse as a set of statements that relate to each other and that determine how an object or topic is observed.

The framing of Pokémon Go could be related to health discourse. This discourse could include statements about the development of health among citizens. More specifically, the discourse could also include statements about how games can be used to achieve this. Such statements can determine that the journalists observe Pokémon Go as a tool to develop health because of the behaviour of players they observe, such as walking around. In a different discourse, journalists might focus on the disadvantages of Pokémon Go, such as players staring at their screen all day.

Health discourse could be related to Foucault's 'bio-politics' (1978). He defines this concept as the purpose of governments to regulate the health of individual citizens which originates from the seventeenth century. In this study, bio-politics is explored as part of health discourse as it can be defined as a way of thinking about health. The concept also shows that the regulation of the health of individuals could be situated in a historical context.

Concerning framed affordances, bio-politics could be used to explain that the framing of the affordances of Pokémon Go could be part of a tradition of trying to improve the health of people. In that case, this tradition influences that the journalists observe Pokémon Go as a tool to develop health. This means that their claims about technology are based on discourse rather than affordances.

However, it needs to be clear that health discourse and bio-politics can only be used as a possible explanation of the findings of this study. Other studies could emphasise on a different discourse to explain how a digital health game – such as Pokémon Go – is discussed. Another critical point is that Foucault describes the health of citizens as the responsibility of

the government. This study aims to add to bio-politics that this responsibility might have shifted to the media as – especially – digital media can spread claims about health relatively fast.

### **3 Frames in texts**

The first part of this section explores textual analysis, as this theory provides a foundation for a research method that is useful for the performance of this study. This analysis is needed to explore the content of the articles in which Pokémon Go is discussed. However, as this theory turns out to be a broad one, the focus on framing theory as an element in textual analysis makes it possible to focus on the shared perceptions regarding healthy behaviour that can be recognised in the texts.

#### **3.1 Textual analysis**

Media professor Alan McKee argues that the production of meaning in a text lies in how people give meaning to the world around them (2003). According to him, textual analysis studies this production of meaning. Sharon Lockyer, a lecturer in media studies, describes textual analysis as a method for studying both the content and the meaning of a text (2008). This can be achieved by studying how a text is constructed. However, these definitions of textual analysis also posit textual analysis as a broad method, because it facilitates the study of every text and multiple elements in these texts. This analysis therefore requires a specific approach that allows for a focus on claims in texts that could imply the frame of the journalist. Framing theory is used as such an approach and serves as a theoretical concept that provides a guideline for analysing the articles.

##### *3.1.1 Framing theory*

According to Chong and Druckman, framing theory acknowledges that there are multiple ways to study topics of debate (2007). A frame is a political point of view that determines how an individual approaches and discusses a topic. For example, if it is generally believed within a frame that walking around while staring at a screen increases health, the authors of the texts considered in this study might argue that playing Pokémon Go contributes to healthy behaviour because it encourages people to walk around while playing the game. From a different frame, it could be argued that staring at a screen while walking around is bad for the player's back or that it causes dangerous situations because players tend to trespass on property without paying attention.

McKee's definition of a textual analysis shows similarities with framing theory. Framing theory aims to analyse frames that form the basis of a text, while textual analysis,

according to McKee, facilitates a study of how the meaning of a text is produced. Framing theory might explain that such meaning derives from frames.

Using a combination of textual analysis and framing theory, patterns related to the frames of authors were searched for in the texts. This resulted in the categorisation of the elements of Pokémon Go which are referred to in the articles as facilitating healthy behaviour. Analysing these categories provided insight into how the authors saw a connection between the game and health.

In relation to framed affordances, the frames of authors were studied to gain insight into how such frames can be discovered in claims about the affordances of Pokémon Go. It was thought that the results could show that the discussion of affordances of an object does not only depend on the connection between the object and an individual, but also on frames. Such frames are not only part of the subject, but indicate a broader debate.

Frames and discourse are closely related to each other and must therefore not be confused. According to Chong and Druckman, a frame is a statement that determines how someone approaches a topic (2007). However, this definition cannot explain where the statement derives from. Foucault explains that a discourse is a set of statements that concern the same issue (1972). A frame is therefore in this study considered part of a discourse and could be influenced by it when new claims or debates are included in the discourse. For example, bio-politics shows that an approach could be the result of a shift in the way of thinking about the health of individuals. A different idea about how health can be regulated can still be part of the same discourse. It needs to be clear that the journalists are not likely to be conscious supporters of health discourse or bio-politics, but elements could be recognised in the texts.

Concerning framed affordances, this could mean that to study how an affordance is framed, also other elements – such as the historical context – need to be considered. Such elements might explain where frames derive from and what their position is in a broader context. This study contributes to affordance theory because it shows that the perception of affordances can influence how someone approaches or uses an object.

Although this method was helpful for performing this study, it also has weaknesses. Framing theory implies a frame prior to claims made in texts. In studying a set of texts, it is assumed that a dominant frame will be found. However, it could also happen that every article shows a different frame. To overcome this limitation and to find a dominant frame, the corpus was carefully selected, as discussed in the following subsection. Studying comparable texts



could increase the likelihood of finding similar frames and debates concerning exergames. A broader range of articles could show various frames and ideas concerning the health effects of games.

### **3.2 Selection of the corpus**

The decision was made to analyse four articles concerning claims about Pokémon Go. These texts were all written in 2016, shortly after the release of Pokémon Go. The first article, by Terri Schwartz, is entitled “Pokémon Go is secretly the best exercise app out there”. The second text is written by Matt Novak and is entitled “Sore legs become pandemic as Pokémon Go players accidentally get exercise”. The third article is entitled “Pokémon Go’s mental health benefits are real” and is written by Jessica Conditt. The final article, written by Kashmiri Gander, is entitled “Pokémon Go: How the game is helping players tackle anxiety and depression”.

The selection of these articles was based on points that were relevant for performing the actual research. For example, it was decided to study neither more nor less than four articles from four different authors. Fewer articles might have increased the chance of a coincidental outcome. The study of multiple articles reduced this possibility and showed a pattern of comparable articles. On the other hand, studying more than four articles would have proved impractical – it would have been difficult to study all the articles in depth, which could have led to relevant elements or references in these texts being overlooked.

A second decision was made, namely to study a range of texts written in the same language and published around the same time – the summer of the release of Pokémon Go. The reasoning behind this was that it would be easier to connect the results of the texts with each other if the authors used comparable references and descriptions. In addition, the authors of articles written around the same time would have had access to the same news articles, studies or other findings concerning the game. Both of these factors may reduce the chance of misinterpretation of different descriptions or of unfair comparisons or generalisations between multiple texts.

Another important point is that the articles were not chosen randomly from the Internet. It was decided to select articles published by websites that focus entirely on, or that have a section that focusses on, digital media. However, this also opens the study up to possible criticism in that one might wonder to what extent the focus of the websites influenced the conclusions in these articles. It may benefit such media if it can be shown that

the use of digital devices facilitates good health, as an increasing amount of digital media users would result in a higher number of visitors to these sites. However, this limitation can be offset by acknowledging that the journalists' background could influence their frame and that it is likely that they believe in the progressive aspects of technology.

The selection of these particular articles might also form a point of concern. Even though the selection fits this study, it still contains only a small sample from the total number of articles that discuss Pokémon Go and the way in which it makes players walk around. Thus, while the choice to select only four articles may reduce the likelihood of a coincidental outcome, there is still a chance that a different corpus selection would lead to other results. Here it must also be acknowledged that the selected journalists have a similar background and are therefore likely to write from a comparable frame.

## **4 Pokémon Go and healthier behaviour**

The purpose of this part of the study is to determine the role of framed affordances in journalists discussing the health benefits of Pokémon Go. First, textual analysis and framing theory were used to study the content of the articles and how Pokémon Go is framed. It is shown that the journalists' claims that elements of the game facilitate healthy behaviour could be the result of a frame that influences their view on the health effects of mobile games.

This section also discusses how a combination of framing and the affordances of Pokémon Go could facilitate the perception that Pokémon Go and healthy behaviour are connected. Pokémon Go does facilitate certain kinds of behaviour – such as walking around – that could be interpreted as exercise. The concept of framed affordances is a relevant and useful concept for studying the use and perception of affordances in society, because it shows that the perception of affordances could also depend on frames in society and not only on the interaction between object and subject.

This is a useful and logical structure for this study because it facilitates a structure to answer the sub-questions. First, it allowed for analysing the articles as a basis for further research. These findings were in the following step explored on the basis of the affordances that are part of the game. This resulted in insights in how the journalist's claims and the affordances of Pokémon Go relate to each other. Finally, it could be explored how this study relates to theories about how the perception of an object can be influenced.

### **4.1 Pokémon Go and media articles**

#### *4.1.1 Implying causalities: Walking, exercise and health*

The articles that discuss Pokémon Go claim that it makes players walk longer distances. For example, Terri Schwartz, entertainment editor and writer for the media company IGN, emphasised this in her article on the game (Schwartz 2016). She suggests that Pokémon Go causes players to take detours, because they are willing to walk a longer distance if it enables them to find a Pokémon. She argues that the proximity of Pokémon and the short distances that need to be covered to find them lower the threshold for people who doubt whether finding Pokémon is worth the trouble. The overall consequence is that players exercise without realising it.

The claims Schwartz makes in her article indicate that she implies a connection between Pokémon Go encouraging players to walk and do exercise. More specifically, she

seems to imply a causal link between players of Pokémon Go walking around and the development of healthier behaviour. In terms of Chong and Druckman, this article could be used by Schwartz to frame the statement that digital games can facilitate a healthier form of behaviour (2007). The texts shows similarities with framing theory, but the connection Schwartz makes between the game and behaviour could also be considered part of a broader debate about health games or exergames.

Players walking around while playing Pokémon Go was also referred to by Matt Novak, writer and editor at Gizmodo, a blog about gadgets and technology (2016). Novak jokes about people who ‘accidentally’ get exercise while playing Pokémon Go. His article seems to have an ironic touch, as he describes the exercise the players get and the sore feet they claim to have as ‘paying the price’. He refers to these players as ‘poor souls’. In the article Novak supports this by showing tweets of players complaining. Although Novak seems to adopt an ironic tone about the phenomenon of people walking while playing the game, he does pay attention to it in his article. This could indicate that he does acknowledge that the game affords a form of exercise.

Matt Novak also seems to imply a connection between Pokémon Go and exercise when he describes ‘sore feet’ as a consequence of ‘accidentally’ exercising. This connection also relates to exergames. However, the two above-mentioned articles differ from each other in that Terri Schwartz does not discuss the possible negative outcomes of playing Pokémon Go, while Novak mainly addresses the negative result of sore feet. Even though the article addresses the negative outcome of this game, the ironic touch implies that Novak does acknowledge that Pokémon Go facilitates a form of exercise. Overall, Novak also frames Pokémon Go as a game that can be used to facilitate a healthy form of behaviour.

#### *4.1.2 Implying causalities: Going outside and interaction*

Terri Schwartz also notes in her article that the game must be played outside, as Pokémon are more likely to be found there than indoors (2016). She explains that moving around across a larger area increases the chance of finding Pokémon. In the article, Schwartz does not connect going outside to physical exercise, however. Instead, she explains that going outside can have a positive effect on mental health, as players are more likely to meet new people. This can be especially beneficial for people who suffer from anxiety. This is relevant, as players need to visit specific locations to find a Pokémon or to visit a PokéStop, where other players are likely to be found.

This connection between Pokémon Go and mental health could also be related to health games. Schwartz frames Pokémon Go in her article as a digital tool to improve the mental health of players. This could be considered part of the broader debate about digital games that can be used to improve health.

A connection between going outside to play Pokémon Go and both mental and physical health benefits is also made by Jessica Conditt. She is a senior reporter for the technological news website Engadget and writes in her article that leaving the house increases the chance of players interacting with each other (2016). She explains that this would be beneficial, as interaction may reduce depression and anxiety, illnesses which cause a lack of motivation to go outside. She claims that Pokémon Go can be used as a way to encourage people to change such behaviour. Like Schwartz, Conditt explains that going outside causes players to walk around. She relates this behaviour to physical health benefits, claiming that it causes weight loss.

This article is therefore more specific than the ones Novak and Schwartz wrote. The article shows similarities with the other texts, as Conditt also implies the connection between going outside and increasing health to be causal. By doing this, Conditt also frames Pokémon Go as a game that can be used to develop mental and physical health.

Kashmira Gander, lifestyle author for The Independent, argues, like Schwartz, that Pokémon Go players are tempted to go outside because Pokémon are more likely to be found there (2016). The main difference between the articles is that Gander only addresses the mental health benefits. She agrees that Pokémon Go might be especially beneficial for people with anxiety or depression and that PokéStops and lure modules make players come together. This enables players with anxiety to engage in a social environment without experiencing it as a threat.

This article also shows an implied connection between health benefits and players who go outside. Gander describes Pokémon Go more as a health game than as an exergame, as she does not focus on exercise. She frames the game as a tool that can develop mental health. However, like in the article written by Schwartz, it does not become clear from the article *why* walking around and meeting people would be beneficial for people with depression or anxiety. Instead, the game is framed as such on the basis of the author's assumptions.

#### *4.1.3 Implying causalities: Pokémon Go and health risks*

Although the articles show a connection between playing Pokémon Go and health benefits,

Jessica Conditt and Kashmir Gander also acknowledge the risks of the behaviour that Pokémon Go facilitates. Jessica Conditt describes Pokémon Go as ‘medicine’ and as a helpful tool for dealing with anxiety (2016). This works, she argues, because players do not realise they are taking the medicine, but feel like they are playing a game. However, she points out that this could also be dangerous, as these types of games might be used as a substitute for professional support instead of players seeking help.

Kashmira Gander explains that the playfulness of Pokémon Go helps players with anxiety feel more comfortable in public and among strangers (2016). However, Gander warns that although such games can help people engage in everyday social contact, they should not be used as substitutes for human interaction, but merely as tools to help overcome issues with interaction.

These authors note that the use of Pokémon Go for its mental health benefits needs to be monitored to ensure that the game is used in the right way. They do frame Pokémon Go as a health game or exergame, but Conditt and Gander also point out that such games might include risks. However, the articles show that although the authors are aware of possible dangers, they do not discourage readers from playing the game. This might indicate that, overall, they believe that playing a game such as Pokémon Go can be beneficial for a person’s health.

#### **4.2 Pokémon Go and affordances**

The first sub-question of this study is: How could healthier behaviour, as described in a sample of popular press articles, be related to the affordances of Pokémon Go? The previous subsection explored how Pokémon Go is described in the media articles. To answer the sub-question, this subsection explores how the claims in the articles could relate to affordances of Pokémon Go.

James J. Gibson described an affordance as the action an object in an environment affords for its user (2015). Pokémon Go could be studied as such an object. Based on how the game is played, it could cause action in the form of healthy behaviour. A description of Pokémon Go facilitates an overview of features of Pokémon Go and how these features could be used. Only the features of the game are studied that could be interpreted as healthy behaviour, such as walking around, because this study explores how Pokémon Go is discussed as facilitating exercise.

An example of the connection between Pokémon Go and behaviour can be found in the need

to visit PokéStops and gyms. To do this, players need to go outside and walk to the PokéStop or gym. This can be interpreted as the development of healthier behaviour because it could be understood as a form of exercise. The game encourages this behaviour indirectly through a set of affordances. For example, the game uses GPS to track the location of a player, which enables the map to show where the player's avatar is and when Pokémon, PokéStops and gyms are nearby. These affordances together allow players to play the game and could lead to more people walking around.

However, the affordances do not explicitly cause the players to exercise. That playing Pokémon Go could be compared to exercise is a matter of interpretation and framing on the part of journalists who observe behaviour resulting from affordances. This also indicates that the claims of the journalists are not only based on frames and debates concerning exergames. Instead, they also relate to actual affordances of the game. However, this does not necessarily mean that a causal link can be found between the game and health.

The concept of actual affordances as described by Norman could be partially recognised. In this study, affordances are explored that are part of the game. However, the study also focusses on a selection of affordances that relate to the claims in the media articles. The affordances can also only be partially related to Gaver's false affordances and Norman's perceived affordances. The affordances are the result of interpretations of the journalists, but they can be recognised in the game. These affordances can also partially be studied as Gaver's perceptible affordances, as they are observed by the journalists. However, this concept does only facilitate to explore affordances that are observed. It does not enable to study how frames can determine this observation. The studied affordances are also not hidden affordances, as they are observed by the authors of the texts.

A better way to describe the connection between the affordances of Pokémon Go and the claims of the journalists would be the concept of framed affordances. This concept explores affordances that are observed in an object and recognises that the observation or the use of the object could be the result of interpretations that derive from frames.

Criticisms of the connection between Pokémon Go and health could also arise. Critics, for example, debate whether the game requires walking or whether the distances can also be covered by staying indoors. The positions of players are based on GPS signals, which are often accurate. However, the avatar sometimes starts walking by itself, and even though it covers only a few meters, it could be enough to visit a PokéStop or to find a Pokémon that would otherwise be out of reach. Also, when a player moves at high speed – for example, in a

car on a highway – the distances are not measured. They are measured when the movement is slow – for example, in a city bus. The movements of buses might be mistaken for walking, because they move slowly when they are near bus stops. This makes the avatar travelling around on the map without the player walking in reality.

The above-mentioned possible criticism does not affect this study. This research does not aim to prove whether gaming can cause healthier behaviour, but instead explores how affordances and their connection to behaviour are framed. Studying Pokémon Go on the basis of affordance theory facilitates an understanding of how Pokémon Go could be perceived as a game that develops healthy behaviour.

The answer to the first sub-question is that the claims that Pokémon Go facilitates healthier behaviour are based on the fact that the game encourages players to walk around. This could be interpreted as exercise, but the game does not explicitly mention this. Also, there are critics that point out that a player does not necessarily need to go outside and walk around to play the game. Thus, the connection between affordances of the game and healthy behaviour is likely to be the result of frames of the journalists.

#### **4.3 Pokémon Go and frames**

According to framing theory, a frame determines how a topic is discussed (Chong and Druckman, 2007). This study adds to this definition that the use of framing theory within textual analysis is not enough to explore where certain ideas derive from. Instead, one or more theories should be used to explore where these ideas derive from. For example the frame of the journalists could concern the debate about health games. It could include the idea that there is a lack of healthy behaviour in today's society and that exergames could be a useful tool to overcome this.

The second sub-question in this study is: What might the media portrayal of Pokémon Go as facilitating healthier behaviour indicate about the framing of affordances? The concept of framed affordances can be used to answer this question. In the studied articles, journalists interpret the behaviour the affordance of the game cause as exercise. Gaver already mentioned that there are multiple ways to interpret affordances (1991). The concept of framed affordances adds to his theory that frames could determine how affordances of objects are interpreted.

However, the concept of framed affordances does not explain where the frame derives from. On the basis of Foucault, it could be explained that a frame can have its starting point in



health discourse. From narrow to broad, the claims that Pokémon Go can develop healthier behaviour could be considered part of a broader debate concerning health games. However, this debate could be considered part of health discourse. Health discourse could include statements that concern why health should be improved and how this can be achieved. Health games could be a tool to achieve the purposes that are discussed within health discourse and the claims of the journalists are a guideline of how this can be achieved.

More specifically, the findings of this study could be related to bio-politics. This concept indicates that the journalists do not only think that health needs to be improved. They could also think that health of individuals needs to be regulated. The way they could try to regulate this is by discussing the health benefits of a digital game in the media. This way they can reach a large group of people. This study could add to the original definition of bio-politics that that this concept needs to be studied in combination with modern developments. A combination of a theory – such as bio-politics – and a contemporary development – such as digital health games – shows that people explore new ways to regulate health.

According to McKee, textual analysis can be helpful to explore the production of meaning in a text (2003). This production of meaning is determined by how people give meaning to the world. The combination of discourse, bio-politics and framed affordances shows that this production could derive from various elements. A combination of bio-politics and textual analysis shows that a text can be used as a tool to exert power. The articles concerning Pokémon Go could be used to make individuals aware that they can improve their health by playing a game. This agrees with Foucault who mentioned that governments can use their power to improve the health of the citizens. However, this study shows that in today's society this power has shifted to journalism. Supporters of bio-politics might believe that the regulation of health can be justified and they might therefore also think that the use of power to achieve this is a positive way to use power.

This way, the concept of framed affordances adds to Gibson's theory that frames could influence another subject in an environment who is not the user of the object. The journalists spread their ideas via online media and this could influence how others use the object.

The answer to the second sub-question is that a combination of framed affordances and bio-politics could determine that Pokémon Go is discussed as developing healthier behaviour. The concept of framed affordances explains that the perception of affordances could be the result of frames of journalists. These frames could be reduced to bio-politics and health discourse. In comparable studies, other frames and ideas might be recognised,

however. This is different from affordance theory, because the concept of framed affordances explores the observation of an object instead of use of the object.

## 5 Conclusion

The answers to the sub-questions enable to answer the research question. This question is: What can an investigation of the connections made between Pokémon Go and healthier lifestyles in a sample of popular press articles show concerning the perception of affordances? In this study, it is hypothesised that the connection between Pokémon Go and health that can be found in the articles, is a result of the frames of the journalists.

The study shows that the hypothesis is true, but that such connections need to be explored more extensively. The answers to the sub-questions show that the affordances of Pokémon Go do facilitate players to go outside and walk around. The journalists could interpret this as exercise as a result of framing and discourse.

A likely frame that could be recognised in the articles is the one that can be found in the discussion in Section 2. This includes the opinion that the combination of games, digital devices and exercise could increase healthy behaviour among young people. The authors studied in this research might contribute to this debate by discussing the health benefits of Pokémon Go as a digital game. This debate could be situated in bio-politics as it shows a concern to regulate people's health.

The answer to the research question is that framed affordances facilitate a tool to explore the perception of objects and affordances. The concept also allows to understand that the use of affordances could be determined by how others frame the affordances. However, the concept does not facilitate to understand why the interaction between the user and the object is framed in a specific way. Other theories – such as discourse – help to understand where the specific perception of an affordance derives from. Thus, the perception of affordances could derive from both media coverage of the object and perception of the object on the basis of frames.

The connection found in the articles thus shows that in the media articles underlying structures can be found that determine how a journalist discusses the topic of concern. Framing theory, discourse theory and bio-politics are only possible explanations for these structures.

## 6 Discussing the findings

This study shows that Pokémon Go can be interpreted on the basis of a frame as affording healthier behaviour, whereas other frames might deny that the game can do this. This means that the outcomes of comparable studies can facilitate insight into a different frame, but not into the actual effects of the game, as frames indicate opinions rather than facts. The findings of this study indicate that one should explore how and why this specific affordance is highlighted. This could facilitate an insight into current debates concerning the use of digital tools and the development of health.

This study is limited by the use of framing theory as a method. The method allows for an analysis of how affordances are framed, but not for an indication of what frame could be recognised in the texts. Instead, it is only possible to address what the most likely frame is. Another limitation that derives from this limitation is that framing theory does not include theories to explore debates the frames could be based on.

Theories that are used in the study to do this can be selected carefully, but the downside of the researcher selecting the theories is that this could unconsciously influence the outcome of the study. This is a limitation as the theories determine how the findings of the study can be interpreted. To overcome this, comparable studies should be based on different theories. Comparable elements that emerge from the different studies could together form an objective conclusion about the phenomenon.

Comparable studies could also overcome another limitation of this study. A point of concern is that this study only focusses on one frame and one set of articles. This means that the results of this study cannot be generalised. Comparable elements that emerge from various studies might overcome this by showing comparable results.

Framing theory shows that the results of the study of texts are only representative for individuals who share the same frame as the writers of the texts. This study cannot make statements about the actual health benefits of Pokémon Go, because a selection of affordances was studied and the way in which these were addressed in a carefully selected research corpus was explored. It is recommended to study a different sample of texts in future research and that the researcher approaches the selection of the corpus and exclusions from the corpus critically. Such a sample should include texts written by various authors and published by other media. This might lead to the discovery of different frames in which Pokémon Go is discussed and a broader understanding of how the health benefits of mobile games are framed.

In terms of studying other exergames, it needs to be taken into account that users or journalists hoping for a connection between gaming and a healthy lifestyle is not the same as gaming actually being beneficial for a player's health. There might be a wish in society for digital tools to make people's lives more convenient. However, other writers could discuss the same game from a different frame and conclude that games are more likely to lead to a negative outcome concerning a player's health. It is therefore recommended that a variety of possible frames be taken into account when studying the perception of health-related affordances of digital games.

## Bibliography

- Allison, Anne. 2002. *The cultural politics of Pokémon capitalism*. Retrieved from <http://cmsw.mit.edu/mit2/Abstracts/AnneAllison.pdf>.
- Allison, Anne. 2009. "The cool brand, affective activism and Japanese youth". In *Theory, Culture & Society* 2009, 26(2-3): 89-111. doi: 10.1177/0263276409103118.
- Baranowski, Tom, Janice Baranowski, Richard Buday and Debbe I. Thompson. 2008. "Playing for real: Video games and stories for health-related behaviour change." In *American Journal of Preventive Medicine*, 34(1): 74-92. Retrieved from <http://dx.doi.org/10.1016/j.amepre.2007.09.027>.
- Buckingham, David and Julian Sefton-Green. 2003. "Gotta catch 'em all: Structure, agency and pedagogy in children's media culture". In *Media, Culture and Society*, 25(3): 379-399. Retrieved from [https://www.sfu.ca/cmns/courses/2008/428/Readings/CMNS%20428,%20\(2008\)%20Reference%20Readings/Buckingham-Sefton-Green%20\(2003\).pdf](https://www.sfu.ca/cmns/courses/2008/428/Readings/CMNS%20428,%20(2008)%20Reference%20Readings/Buckingham-Sefton-Green%20(2003).pdf)
- Chong, Dennis and James N. Druckman. 2007. "Framing theory". In *Annual Reviews of Political Science*, 10: 103-126. Retrieved from <http://www.annualreviews.org/doi/10.1146/annurev.polisci.10.072805.103054>.
- Conditt, Jessica. 2016. *Pokémon Go's mental health benefits are real*. Retrieved from <https://www.engadget.com/2016/07/13/pokemon-go-mental-health-science/>.
- Ferguson, Bill. 2012. "The emergence of games for health." In *Games for health journal: Research, development and clinical applications*, 1(1): 1-2. doi: 10.1089/g4h.2012.1010.
- Foucault, Michel. 1972. *The archaeology of knowledge and the discourse on language*, translated by A.M. Sheridan Smith. New York, NY: Pantheon Books. Retrieved from: [https://monoskop.org/images/9/90/Foucault\\_Michel\\_Archaeology\\_of\\_Knowledge.pdf](https://monoskop.org/images/9/90/Foucault_Michel_Archaeology_of_Knowledge.pdf).
- Foucault, Michel. 1978. *The history of sexuality. Volume 1: An introduction*, translated by Robert Hurley. New York, NY: Pantheon Books. Retrieved from: <https://suplaney.files.wordpress.com/2010/09/foucault-the-history-of-sexuality-volume-1.pdf>.
- Gander, Kashmira. 2016. *Pokémon Go: How the game is helping players tackle anxiety and depression*. Retrieved from <http://www.independent.co.uk/life-style/gadgets-and-tech/how-pokemon-go-is-helping-players-tackle-anxiety-and-depression>

-a7132946.html.

- Gaver, William W. 1991. "Technology affordances". In *Proceedings of the SIGCHI conference on Human factors in computing systems Reaching through technology*, 79-84. doi: 10.1145/108844.108856.
- Gibson, James J. 2015. *The ecological approach to visual perception*. New York, NY: Psychology Press. Retrieved from <https://books.google.nl/books?id=8BSLBQAAQBAJ&printsec=frontcover&hl=nl#v=onepage&q&f=false>.
- Grimes, Andrea, Rebecca E. Grinter and Vasudhara Kantroo. 2010. "Let's play: Mobile health games for adults." In *UbiComp '10*, September 26-29: 241-250. Retrieved from <http://www.cc.gatech.edu/~beki/c52.pdf>.
- Lockyer, Sharon. 2008. "Textual Analysis." In *The Sage Encyclopedia of Qualitative Research Methods*, edited by Lisa M. Given. Vol. 1&2, 865-866. Thousand Oaks, CA: SAGE. Retrieved from <http://www.yanchukvladimir.com/docs/Library/Sage%20Encyclopedia%20of%20Qualitative%20Research%20Methods-%202008.pdf>.
- McKee, Alan. 2003. "What is textual analysis?" In *Textual analysis: A beginner's guide*. 1-33. Thousand Oaks, CA: SAGE.
- Norman, Donald. 1999. "Affordance, conventions and design". In *Interactions*, 6(3): 38-43. [http://www.e-pe.ee/\\_download/euni\\_repository/file/3232/Content.zip/Content/Articles/norman-1999.pdf](http://www.e-pe.ee/_download/euni_repository/file/3232/Content.zip/Content/Articles/norman-1999.pdf).
- Novak, Matt. 2016. *Sore legs become pandemic as Pokémon Go players accidentally get exercise*. Retrieved from [http://gizmodo.com/sore-legs-become-pandemic-as-pokemon-go-players-acciden-1783402931?utm\\_source=MIT+TR+Newsletters&utm\\_campaign=78fa096bd2-The\\_Download\\_July\\_11\\_2016&utm\\_medium=email&utm\\_term=0\\_997ed6f472-78fa096bd2-&goal=0\\_997ed6f472-78fa096bd2-&mc\\_cid=78fa096bd2&mc\\_eid=%5BUNIQID%5D](http://gizmodo.com/sore-legs-become-pandemic-as-pokemon-go-players-acciden-1783402931?utm_source=MIT+TR+Newsletters&utm_campaign=78fa096bd2-The_Download_July_11_2016&utm_medium=email&utm_term=0_997ed6f472-78fa096bd2-&goal=0_997ed6f472-78fa096bd2-&mc_cid=78fa096bd2&mc_eid=%5BUNIQID%5D).
- Pokémon Go. N.d. *Sta op en ga op ontdekking!* Retrieved from <http://www.pokemongo.com/nl-nl/explore/>.
- Schwartz, Terri. 2016. *Pokémon Go is secretly the best exercise app out there*. Retrieved from <http://www.ign.com/articles/2016/07/09/pokemon-go-is-secretly-the-best-exercise-app-out-there>.

Vasquez, Vivian. 2003. "What Pokémon can teach us about learning and literacy". In *Language Arts*, November 81(2): 118-125. Retrieved from <http://www.curriculum.org/secretariat/files/Nov29Pokemon.pdf>.