Not Just Another Selfie

An exploration into the technical and interface affordances that shape self-representation in fitness selfies

Abstract: Selfies have been mainly discussed in the academic world from a communicative and gender perspective. With a primary focus on fitness selfies, this thesis explores the role of the smartphone while creating and sharing selfies online. It argues that studies into selfies cannot separate the social practice and role of technology. First it focuses on the concepts of self-representation and mediation, and argues that there cannot be self-representation in selfies without mediation. Then, by looking at technical and interface affordances, and signifiers of two widely used phones and operating systems, this thesis presents five affordances specified on self-representation through mobile media: simultaneity, editability, reviseabililty, reviewability and timeslicing. These affordances are further explored in the final chapter, which provides an analysis of four categories of fitness selfies that people deploy to represent themselves. These categories are statement of muscle growth, statement of pride, statement of complaint and statement of place.

Keywords: Selfie, affordances, self-representation, mediation, mobile media

Liset van der Laan
Master thesis

Utrecht University
New Media & Digital Culture
Tutor: René Glas
Second reader: Teresa de la Hera

Acknowledgements

It has been a rocky road from premaster to master and I would like to take this opportunity to thank the people that made it possible. First and foremost I would like to thank my father. His enthusiasm and interest in new media encouraged me, and his support helped me overcome many crisis situations. Secondly, I would like to thank my supervisor René Glas for his helpful insights during our meetings. Writing this thesis was a difficult undertaking and his guidance and advice helped me focus my ideas, to create this thesis as it is today. Thirdly and finally, to my friends and family, who cheered me up during the time of writing, drank coffee with me and inspired me with their refreshing ideas. In particular, I am grateful to Sofie Berns and James Dyer for their detailed review during the last stage of this thesis.

Table of Contents

1. Introduction

When the Oxford Dictionary declared *selfie* the word of the year in 2013, it unintentionally kicked off an argument about the self-shot photo in popular media. The selfie has been mostly portrayed as a narcissist tool for the vain (Farah 2014). Obsessive selfie taking is even claimed to be a mental illness related to borderline and other psychiatric disorders (Vincent 2014; Augenstein 2015), which can even cause death at worst (Sobot 2015). Nevertheless, we still snap away with our smartphones. We create numerous selfies with different looks. The smartphone has become our perpetual companion that we tilt and raise to find our best angle. Manufacturers keep improving the quality of the front-facing camera, for example by integrating a flash and updating their software, to fulfil our dreams and desire to take a photo of our best self and share this via social networking sites. All in all, the selfie has become a common means of communication that allows us to shape our public personality.

When we create and share a selfie on Facebook or Instagram, we think about how we want to present ourselves to others. We choose a setting, a frame, and we edit our photo until we are satisfied with the way the selfie looks. In doing so, we build perceptions about ourselves that are constructed purely from within screens (Wendt 2014, 7). Thus, by making a selfie and participating in online social networking, "individuals have no choice but to represent themselves" (Enli en Thumim 2012, 88). In the academic field, self-representation through digital technologies, and especially selfies, has been primarily discussed from a communication (Thumim 2012; Walker Rettberg 2014) and gender (Albury 2015; Coladonato 2014; Tiidenberg and Gómez Cruz 2015) perspective. The International Journal of Communication dedicated a special section to the selfie in their 2015 volume. In the introduction, scholars Theresa Senft and Nancy Baym state:

> "Although there is no denying the role technology has played in the rise of the selfie phenomenon, as communications theorists, we are more interested in the selfie as cultural artifact and social practice." (Senft and Baym 2015, 1589)

This implies that the social practice and the role of technology can be studied separately. However, users must rely on interface and technical affordances to create and share a selfie, and thereby make up their self-representation. This raises questions regarding the role of technology in the construction of one's identity, questioning if the selfie should be studied as cultural artefact and social practice on its own merits,

without involving the technology. As communication and digital media scholar Aaron Hess explains, "[w]hile the easy explanation is that selfies exist as emblems of a narcissistic contemporary culture, a deeper reading of selfies instead provides insight into the relationships between technology, the self, materiality, and networks" (Hess 2015, 1630). These relationships are important, as they can push a user towards certain behaviour. In other words, a platform's architecture – its interface, design, code, and algorithms – "is always the temporary outcome of its owner's attempt to steer users' activities in a certain direction" (Van Dijck 2012, 4). This thesis then, examines the role of the technical and interface affordances in the creation of a selfie. By employing an affordances approach I aim to point out the importance of taking technology into account while studying selfies. Due to the enormous scope of selfies, I explore this topic with fitness selfies, a genre of selfies that is primarily focussed on fitness, as a primary case study. This specific genre is popular amongst both men and women and is widely used as communication tool on platforms as Instagram and Twitter.

In order to understand the selfie, many cultural and communication scholars are dipping their toes into art history, comparing the selfie to the self-portrait (Walker Rettberg 2014, Wendt 2014). This thesis, however, approaches selfies as a form of communication instead of comparing it to traditional paintings and photography, which is much more about creating an art object. Although this line of inquire address many interesting questions about for example the nature of identity or the politics of representation, this thesis is concerned with the selfie as a social snap, a visual sharing of experience.

Conducting such an investigation requires first an understanding of self-representation through mobile technologies specific to selfie takers. Therefore I will investigate two terms that are central to the argument I intent to make: self-representation and mediation. Self-representation is a key term as making a selfie is a practice of self-representation in its essence. As we use our smartphone as mediators, the processes of mediation are also crucial to understanding self-representation. The results of this investigation will be the foundation for the theoretical framework, which I will use to inform an analysis of actual fitness selfies posted on the photo sharing platform Instagram. The objective of this thesis, then, is to determine how technical and interface affordances of smartphones shape self-representation of fitness selfie-takers. This leads to the following main research question:

How and in what ways do smartphones shape self-representation in fitness selfies through technical and interface affordances?

To be able to satisfactorily answer this question, it is necessary to first examine key aspects of mediation, self-representation and human-technology interactions regarding mobile media. Therefore my sub questions are:

1. In what ways are mediation processes at work in self-representation practices through mobile technologies?
2. How is self-representation reflected in the design and affordances of smartphone camera software?
3. How do selfie-takers use these technical and interface affordances to represent themselves within fitness selfies?

By focussing on a specific genre I aim to provide insights into the role of mobile technology when shaping self-representations in selfies. Fitness selfies are a popular selfie genre amongst men and woman around the world. People use the fitness selfie not only to define their place, like a museumselfie or mountainselfie, which are made in a museum or on a mountain, but also to communicate their progress and emotions amongst others. Furthermore, it is one of the most popular selfie genres, with 642.408 selfies posted with the hashtag #fitnessselfie on Instagram as of October 2015. Fitness selfies are, just as regular selfies, often subject of popular discourse. On the one hand avid selfie takers give tips to improve your fitness selfie, "to get the best selfie at the gym" (Lee 2014). Others claim that selfies help to achieve ones fitness goals. By visually tracking progress selfies "make a good transformation story" (Lee 2015). On the other hand they are claimed to be one of the worst types of selfies linked to narcissism (Moore 2013).

Fitness selfies are closely connected with body ideals of both men and women. One reason for this is the rapidly growing fitness industry since the rise of commercial fitness centres in the 1960s (Stern 2008), which approximately half (49%) of the people join to lose weight (IHRSA Trend Report 2012). Nowadays, fitness has become part of modern-day life, prevailing a so-called healthism discourse, which "equates health with a slim body shape achieved through exercise" (Wright, O'Flynn and Macdonald 2006). Another reason is that each individual, while making a photograph, aims to capture an idealized self (Van Dijck 2008, 64). However, cultural ideals of physical appearance, often unconsciously, "influence the mind's (idealized) images of

self" (ibid., 65). Fitness selfies are thus embedded in visual, cultural and social conventions. Although selfie-taking is often portrayed as a feminine activity, the fitness selfie also touches upon the male so-called spornosexuality: young men "going to the gym to fashion spectacularly muscular bodies and then sharing images of themselves on social networking sites" (Hakim 2015, 84). Fitness selfies are, thus, on the interface between gender studies and new media. This thesis, however, aims to study the relationship between self-representation and technology, and is primarily interested in the steering effect of technology. Therefore it will be less concerned with gender.

As new media theorist José van Dijck argues, digital images, especially when broadcast on social media, can be understood as "tools for communication, experience and identity formation" (Van Dijck 2008, 68). The selfie is eminently used as such a tool. Selfies make us aware about a particular method of self-representation and communication, presenting smartphones as a "new and hybrid image-making and simultaneously image-sharing device significantly different from all its predecessors" (Tifentale 2014, 3). To understand the relation between the smartphone and method of self-representation, this thesis explores the technical and interface affordances of the smartphone.

1.1 Methodology

To answer the main and sub questions, I use affordance theory and analysis to serve as a foundation for a qualitative content analysis of fitness selfies. In chapter 3 I will give an overview of affordance theory and expound the notion of signifiers. A detailed description of the signifiers leaves room to identify the affordances (Norman 2013, 14). By paying attention to the design aspects (signifiers) of the operating systems Android 5.1 Lollipop and iOS 9 regarding the front-facing and rear camera chapter 3 will expose the signifiers related to self-representation. Andrew Schrock (2015) identified four key communication affordances for mobile media: portability, availability, multimediality and locatibility. By means of the signifiers I identify five affordances that complement this list, and are specific for self-representation through mobile media. These five affordances are simultaneity, editability, reviseability, reviewability and timeslicing.

Chapter 4 will use the identified affordances of the previous chapter to conduct a qualitative content analysis of fitness selfies that are posted on the photography platform Instagram. With the help of the website If This Then Than, 196 images with the hashtags #fitnessselfie and #gymselfie are collected between October 16th and October 22nd. The scrape collects from each image the date that the photo is posted, the username, the caption, a URL to the actual selfie, and the screenshot of the selfie. As this

is a qualitative research, generalizing quantitative data is not an end in itself but is used to demarcate the enormous amount of fitness selfies.

In media studies the development of qualitative content analysis is linked to the German sociologist Siegfried Kracauer (Brennen 2012, 194). Kracauer (1952) argued against a purely quantitative type of content analysis and favoured a more qualitative method. He argued that the goal of qualitative content analysis was "to bring out the entire range of potential meanings in texts" (Brennen 2012, 194). Since then, many theorists have used the term and developed several approaches to qualitative content analysis. One of these approaches is ethnographic content analysis; a methodology developed by David Altheide. Ethnographic content analysis is used to "document and understand the communication of meaning, as well as to verify theoretical relationships", where "the emphasis is on discovery and description" (Altheide 1987). In Altheide's method, the researcher has a highly reflexive and interactive nature. In this thesis I use aspects of Altheide's approach to research self-representation amongst selfie-takers. These aspects are determining themes, finding overlapping concepts, purposive sampling and a "reflexive movement between concept development, sampling, data collection, data coding, data analysis, and interpretation" (ibid., 70). This method is explained further in part 4.1 of this thesis.

Studying smartphones in relation to self-representation copes with two difficulties. The first is that such an investigation grapples with the enormous amount of manufacturers of smartphones circulating. Although I do not deny the role of hardware in the creation of a self-representation through selfies, it is due to the scope of this thesis not possible to study the different kinds of smartphones. However, a closer look at the software being used can give a broader view into the topic. The two operating systems chosen dominate 88,5% of the smartphone market share in the five biggest EU countries as of February 2015 (Kantar 2015). This analysis presents another challenge, namely the use of the hashtag fitness selfie for images that are not selfies. Although these images are addressing interesting questions regarding the use of the hashtag, this thesis is more concerned with self-representation in actual selfies. Therefore I have manually removed the non-selfies from the data.

1.2 Structure

In order to answer the first sub question (in what ways are mediation processes at work in self-representation practices through mobile technologies?), the following chapter covers the academic discourse surrounding two central terms related to selfies: self-representation and mediation. To put the discourse in perspective, I begin with an

overview of the development of the front-facing camera, after which I will cover the notion of self-representation and the three distinctions of mediation by scholar Nancy Thumim (2015): cultural mediation, textual mediation and institutional mediation. Subsequently I will look at the selfie from an assemblage perspective. Hess (2015) argues that a selfie can be seen as constituted of four elements, the self, the device, the network and the physical space; he calls this the selfie assemblage. Thus, the next chapter will be primarily concerned with understanding the phenomenon of the selfie in three categories: self-representation, mediation and the selfie assemblage.

Having mapped the current discourse around self-representation, mediation and selfies, chapter 3 is looking at the selfie from an affordance perspective. The first section gives an overview of affordance theory as coined by James Gibson and Donald Norman. Then, I look at the communicative affordances framework by Andrew Schrock. To make his framework more specific to selfies, I look at the signifiers of the front-facing camera of iOS9 and Android 5.1 Lollipop. Hereby I identify five affordances that users have to negotiate while making a selfie: simultaneity, editability, revisability, reviewability and timeslicing.

Chapter 4 will use the considerations of chapter 2 and the affordances of chapter 3 to determine how people use these technical and interface affordances while making fitness selfies. In doing so, it answers the third sub question: How do selfie-takers use these technical and interface affordances to represent themselves within fitness selfies? As a foundation for this analysis I identify four categories that fitness selfie takers are likely to employ, which I call statements due to the focus on self-representation. The first is statement of muscle growth, where people show how they are improving. This is usually a comparative parallel photo. The second is statement of pride, where people show their muscles. In this case, it is often not clear if the photograph is made in a gym, as it is usually a close up from arm muscles, abs, back or buttocks. The third is statement of complaint, where people grumble about the hard time they have at the gym. The fourth is statement of place, where the focus is on just being at the gym and showing people together with gym devices.

2. Mapping the selfie

This chapter seeks to answer the first sub question of this thesis (in what ways are mediation processes at work in self-representation practices through mobile technology?) by presenting the status quo of the selfie regarding two key terms: self-representation and mediation. Taking selfies is a particular way of self-representation that is historically time-specific in the sense that it could only occur when several technologies have reached a certain level of development and accessibility (Tifentale 2014, 3). These include hardware such as front-facing camera's on smartphones, the availability of Internet connection and software like apps and online image-sharing platforms. The first part of this chapter covers this elucidation. The second part copes with the terms self-representation and mediation. The third part discusses the elements that constitute a selfie.

2.1 The origin of the selfie

> "A photograph that one has taken of oneself, typically one taken with a smartphone or webcam and shared via social media" (Selfie 2013)

This is the definition of the selfie that was created by the Oxford Dictionary in 2013. Two important elements from this definition are the front-facing camera and the distribution of images through social media. These two variables make selfies different from other, earlier, media of self-imaging. The front-facing camera of a smartphone allows an individual to simultaneously see their reflection and record it. This is possible for the first time in history as mirrors allowed us to see our reflection but not record it, and analogue cameras the other way around (Walker Rettberg 2014, 12). Originally, the front-facing camera on a mobile phone was intended for video calls. Several mobile phones released in late 2003 introduced the front-facing camera, amongst others the Sony Ericsson Z1010 (Nerdeky 2003). The quality was significant lower than the rear camera, similar to the relative low resolutions of webcams used for video chatting. The resurgence of the selfie happened in 2010 when Apple released their iPhone 4 (Losse 2013) and social media photo applications like Instagram and Hipstamatic were launched. These tools made it possible for users to have complete control over the selfie: the framing of the selfie, the afterwards editing with filters, brightness and contrast, and its distribution. Over the years more and more applications were launched that focussed primarily on using the front-facing camera, like Dubsmash

(Mobile Motion 2014), a lip-synching app that allows users to recreate their favourite movie scene lines, or Snapchat (Snapchat, Inc. 2011), a video messaging app that allows users to take photos, record videos, add text and drawings, and send them to their friends. These snaps can only be seen for a limited time after they are removed, or can be added to *My Story,* which is available for all ones followers for 24 hours.

Although the selfie gained more and more popularity, it took a while until the manufactures started to improve their front-facing camera[1]. The front-facing camera of Apple's iPhone was only slightly improving after the iPhone 4, while the rear camera improved much more. However, with their latest model, the iPhone 6s, they improved the front-facing camera dramatically and even advertised with it, saying "even selfies have changed, now your screen is the flash. That's going to get like, a million likes" (Apple 2015). Apple are not alone in this. Several manufacturers advertised with their improved front-facing cameras. Samsung made several videos to promote the Galaxy S6 edge+, amongst others *How to take a selfie on the Galaxy S6 edge+* where they show how easy it is to make the *#perfectselfie* (Samsung Mobile 2015). Another example is the HTC Desire Eye, known as the 'selfie phone' as the front- and rear camera have equal specifications and the front-facing camera has a wide angle. For those who do not have a wide-angle front-facing camera, there is the selfie stick, a monopod to position a smartphone beyond the normal range of the arm.

It took several years to evolve the mobile technology to be able to create selfies as we know them today. Google trends originate the term selfie in the year 2013. Its usage grew to a stable use of the term in 2014 and 2015. The acknowledgment by manufacturers of this changed usage is reflected in the improved technical qualities of the front-facing camera. Digital media scholar Jill Walker Rettberg points out that although mobile technology only recently allows us to create and share selfies as is done nowadays, making self-representations is not something new. Whether we use oil paint, a mirror or a smartphone, "technology can reflect back to us a version of who we are" (Walker Rettberg 2014, 2). In the next part I will closely look at the terms self-representation and mediation to understand how self-representations are shaped within smartphones.

---

[1] Although the rear-camera improved gradually from 2003 until now, the development of the front-facing camera was lagging behind. However, since late 2014 the front-facing camera improved enormously. See appendix table 1: *specifications of the most popular smartphones*

2.2 Mediation of self-representation

As making a selfie is a practice of self-representation in its essence it is necessary to have a clear understanding of the term. Self-representation and related terms like self-performance and self-presentation are regularly used to refer to activities of participating audiences in digital culture (e.g. Papacharissi 2002; Livingstone 2008). The idea of self-representation is however conceptually different to that of the performance of self since "we all 'perform the self' all of the time and this is neither a bounded nor indeed a necessarily conscious process" (Thumim 2015, 6). Thus, self-representations do not replace self-performance or self-presentation, but are produced. The notion of a self-representation then focuses on the "symbolic forms created and then circulating" (Enli and Thumim 2012, 90).

Self-representations have been part of the Western culture for a long time; we have kept diaries, made paintings, sung ballads and told stories about ourselves (Walker Rettberg 2014, 2). Theorisation about representations of the self therefore has a rich history as well, mostly found in psychology (e.g. James 1890; Neisser 1994). With the rise of virtual environments such as Second Life (Linden Lab 2003), research into self-representation became a topic of interest in computer-mediated communication. These studies focused merely on how people transformed their self-representation online, in other words, studying the gap between the real and the virtual self (Yee and Bailenson 2007, 272). The development and take-up of social media has enabled new forms of communication, blurring that gap, and the question in research shifted from *if* someone represents himself or herself to *how* someone represents himself or herself online.

In her book *Self-representation and Digital Culture*, media scholar Nancy Thumim (2015) explores how ordinary people practice self-representation in contemporary culture. She points out that self-representations come up in lots of different forms. They are not all the same kind of thing and they are not all serving the same kind of purpose. Thumim argues that the practice of self-representation hold together both therapeutic and democratic discourses. Self-representation is seen as therapeutic, as the focus is on the individual, personal and even private development, by sharing a story and having an outlet to be heard. It is seen as democratic because ordinary people are given the opportunity to tell their story, in which "the aggregation of individuals as the collective public is privileged" (Thumim 2015, 9). The therapeutic side can be clearly seen in the case of the fitness selfie as the focus cannot be more on the individual when someone is taking his or her own picture. When someone uploads a selfie to a social media platform, it gives an individual the possibility to participate in

a larger group. When one uploads a selfie for example with a certain hashtag, it adds this photo to this community. For example, when someone posts a photo with the hashtag #fitnessselfie, it immediately adds the photo to the series of other photos with that hashtag.

Thumim points out that the mediation of self-representations is both a political and a cultural matter "because of the range of associations that we make" (Thumim, Self-Representation and Digital Culture 2015, 3). It is political, as representations must always involve choices. For example, when one is making a documentary, there must be choices from how to represent an idea to the selection of background sound and music. In this case representations are made by one set of people (film-makers) of another (subjects). The concept of *self*-representations contains an even more explicitly political claim than representations, because the term implicitly (and sometimes explicit) has the allegation that people are "doing it for themselves" (ibid., 8). Thus, when someone is making a selfie, there is not a set of people who are creating the representations. However also in such instances of self-representation there must always be choices about what aspects of self to represent and how to represent them, in other words "strategies of representation and visualisation" (ibid.). When someone takes a selfie, the self-representation comes about through conventions, technological affordances and limitations, institutional requirements and expectations, personal ideas and more. These are all "processes of mediation shaping the self-representation" (ibid., 54). Self-representation in digital culture is, thus, always and unavoidably mediated.

So although self-representations, such as fitness selfies, have a liberating ideal, promising to deliver authentic accounts of individuals, they are always embedded in cultural conceptions and social norms. It is argued in popular media that fitness selfies have strong therapeutic benefits for ones health (e.g. Crowder 2014; Demelo 2015; Chastain 2015). Although it feels that an individual has total control over a photograph when he or she is the one taking it, the selfie is still shaped within human relations and hold the premise of social-cultural conceptions such as the beauty ideal of a fit person. Moreover, processes of mediation are at work when uploading a fitness selfie to a social media platform. Thumim argues that to understand ubiquitous self-representations, one must turn toward the tri-dimensions of mediated self-representation: the institutional processes, the cultural processes and the textual processes.

2.2.1 Dimensions of mediation

Conventionally, the verb *mediate* has the meaning of "interposing something as a medium between two things that are not connected" (Nicholls 2007). This implies that

mediation is necessary to connect things that are separate. Thus to mediate is to connect or reconcile separate things, as a third term between two things. In the case of media the term has long been used to focus on the role of technology in meaning-making (Thumim 2015, 51). This seems obvious as technology intervenes in face-to-face contact. However, processes of mediation concern much more than technology, for example the role of the institution.

Thumim formulates three dimensions of mediation: institutional mediation, cultural mediation and textual mediation. The first describes a focus on the discourse of producers and producing institutions and seeks to answer the question how self-representations of the people who participate are mediated either by an institutional invitation to tell their story or by the fact that they must represent themselves textually in order to be part of online social networks (Thumim 2015, 58). The cultural dimension pertains to mediation processes arising from the activity of audience members engaged in production and seeks to answer the question how the self-representations of the members of the public who participate are shaped by their own cultural formations and expectations (ibid., 59). Textual mediation pertains to a focus on form and content and aims to answer the question how self-representations are mediated by the making and display of the text (ibid., 61). Thumim stresses that these dimensions do not separate mediation in this way, nor are they every kind of mediation, but help exploring beyond the idea that everything is mediated.

Thumim argues that "there can be no self without mediation" (Thumim, Self-Representation and Digital Culture 2015, 51), meaning that mediation is a necessary condition of self-representation, as unmediated representations in digital culture is not possible. There is a strong belief however that unmediated self-representation is possible, and that it should be possible to 'speak for oneself' without being mediated by media producers or other professionals. Mediation is often linked to the power of professional institutions such as television. The inherent assumption is that we can curate ourselves online, as the professional institutions are no longer the 'middle-man' between sender and receiver. A music band, for example, uploads their songs for their fans to download, without the intervention, and mediation, of a professional publisher. As such the selfie is not the self-portrait of a painter mediated by a magazine or a museum. Although selfies seem unmediated by professional institutions, the sharing platforms do regulate and sensor, so institutional mediation still exists. Thumim points out that there is also an assumption that mediation is minimized when *real* people represent themselves, for example when a vlogger makes a video and uploads it on YouTube. However, it suggests a paradox: mediation must by definition take place

when a representation is made: from the idea, to its reception and circulation. Therefore mediation is crucial to understanding self-representations (ibid., 619).

Thus, although there is a widely held belief that digital platforms have afforded people the opportunity to represent themselves in an unmediated way, institutional, cultural and textual mediating forces are still at work. To see how these processes of mediation work in selfies, we must address the different elements that constitute a selfie.

2.3 The selfie assemblage

Mediation takes place on different levels and aspects when we create a selfie. The creation of a selfie is shaped by several interrelating elements, each mediated in different ways. The everyday practice of selfies shows how individuals carry their mobile device from location to location, ready at all times to represent their self and circulate within online social networks. The selfie is not just a self-portrait, but a social practice, a message or statement, wrapped in a visual language.

Aaron Hess (2015) points out the importance of the several elements that constitute a selfie; to fully understand the meaning of the selfie we should take the self, its relation with its surroundings, the digital device, and the network in consideration. He studies these relations as a Deleuzian assemblage and calls it the *selfie assemblage*. The concept of assemblage provides a means of mapping the tension between representational practices and our devices. The selfie allows users to materialize the self "via their immediate photographic composition in everyday existence, giving credence to our emplacement in the here and now" (Hess 2015, 1631). To specify his argument, Hess poses four elements that constitute the selfie: the self, physical space, the device, and the network. These elements acquire further explorations as each of these elements is relevant to mediated self-representation and informs my affordance analysis of fitness selfies.

First, Hess stretches that selfies accent the self. Although selfies are staged, they presume a sense of authenticity (Hess 2015, 1632). This self-authenticating nature is not as spontaneous as it seems but rather rehearsed. Walker-Rettberg agrees, claiming that the ease and the inexpense of deleting digital images and taking new ones allow the taker to make selfies over and over again, to find that perfect angle (Walker Rettberg 2014, 12). By their nature a selfie is a very personal way of communicating. You look a person right in the eyes. As such it makes it possible to give a message with a very personal touch. Instances when users go beyond the expected authenticity of selfies are often called upon. For example the website Filter Fakers (2014) calls out

cheaters who claim that they did not use a filter by adding the hashtag #nofilter but in fact did manipulate the selfie using Instagram.

Secondly, selfies are emplaced. They are characterized by a relationship to space and place (Hess 2015, 1636). There are also ethics and conventions about a place. For example, is it acceptable to make a selfie at a funeral? The practice of selfie-taking is more and more forbidden or regulated in specific places like museums. In the Van Gogh museum in Amsterdam for example, is selfie-taking (and photography in general) restricted to a special mural painting of the sunflowers due to many complaints about photography near the paintings. Obviously, this is also the connected to the case of fitness selfies as they are usually taken in a gym.

Thirdly, the device serves as a filter through its use of software, but also "in the ways that it frames and removes elements of the physical surroundings through the physical relationship of hand, device, body, and backdrop" (Hess 2015, 1640). Making selfies with smartphones is unique because they are locative, networked, connected with the internet (one can share the selfie easily on social networking sites), and they give the user the possibility to see themselves and their surroundings "in real time" using the front-face camera.

At last, Hess stretches that selfies presume a networked audience. People take selfies to be shared on digital platforms. They are used as a personal greeting or as a statement or message. According to Hess, they are the digital and virtual representation of a person within the network and are as such an idealised or improved version compared to the non-digital material world (Hess 2015, 1641).

In this chapter I have shown that in the making of self-representations, there must always be choices about what aspects of the self to represent and how to represent them. The self is, obviously, embedded in one's culture, which brings abilities, expectations and understandings to the mediation process. The self then becomes a text when one takes a selfie, and optionally adds a caption or hashtags. Processes of cultural mediation are also at stake in the physical space as it is chosen. In that sense, the selfie taker considered the place appropriate and suitable for a selfie. Processes of cultural and textual mediation are both at work in the device. The textual possibilities are engendered by the use of a certain device, which shape the self-representation just as much as the focus on framing. An institution mostly constitutes the network. When one shares his or her selfie on a certain network, for example Facebook, Instagram or the fitness centre, they are mediated by the possibilities of these platforms.

The next chapter provides a framework through which we may understand how technologies such as mobile media are integrated into routines, affecting subsequent patterns of communication (Schrock 2015, 1229).

3. An affordance perspective on selfies

Where the previous chapter investigates the mediated nature of self-representation in digital culture, this chapter explores the technical and interface affordances selfie takers must negotiate in order to make their self-representation. In order to answer the second sub question (how is self-representation reflected in the design and affordances of smartphone camera software?), this chapter is divided into three sections. Prior to the analysis, a more specific account of the theory of affordances and signifiers is given. After that I will elaborate on the communicative affordance framework created by media scholar Andrew Schrock. Subsequently I will analyse the camera app in iOS 9 and Android 5.1 Lollipop to trace the affordances related to self-representation.

Approaching selfies with an eye to affordances is valuable because affordances represent possible performative interactions between the user and the world, mediated by smartphones (Curinga 2014). As one takes a selfie knowingly (and shows it to others), the selfie signifies a sense of human agency. Nevertheless, selfies are "created, displayed, distributed, tracked and monetized through an assemblage of non-human agents" (Senft and Baym 2015, 1589). To the extreme, Susan Sontag leaves little room for human agency at all when talking about photography. The technology determines everything for Sontag; one has nothing to contribute. She states that "the camera performs this sort of inherent violent and theft on a subject that is placed in front of the camera. [...] The power is behind the camera and the subject that is in front of the camera is exposed to vulnerability" (Sontag 2001). The case of the selfie however, poses a paradox as the one taking and being taken is the same person. While Sontag's viewpoint can be seen as mere technological deterministic, scholar José van Dijck argues that scholarly research into new media often have a tendency to social constructivism (Van Dijck 2012, 7), emphasizing that technology is not neutral. Therefore, an approach that regards technical affordances alongside human actors is desirable. An affordance perspective looks both at social constructivism and technological determinism and "evaluates technologies used in real-world context" (Schrock 2015, 1229). Technology is not all there is to culture, nor does it determine it in some predictable way; rather, technologies *afford* cultural possibilities (Lister, et al. 2009, xv).

3.1 Affordance theory

Perceptual psychologist James Gibson introduced the concept of affordances in 1977. He used the term for environments in relation to animals that lived there. In other words, he intended an affordance "to mean an action possibility available in the environment to an individual, independent of the individual's ability to perceive this possibility" (McGrenere and Ho 2000, 1). According to Gibson, perception of the environment inevitably leads to some course of action. He states that the potential uses of a given object arise from its perceivable properties and always in relation to the actor's capabilities and interests. He distinguishes here between an object qualities and affordances, and argues that we do not perceive the qualities but rather the affordances of the object (Gibson 1979, 58). An affordance is, thus, related to the specific organism and the perception. According to Gibson, seeing in one's environment is automatically linked with perception of utility. By contrast, media theorist William Gaver suggests there exist more than direct perceptions and divided affordances into three categories: perceptible, hidden, and false (Schrock 2015, 1231).

The term has further evolved for use in the context of human-computer-interaction by Donald Norman. Norman appropriated the concept to refer to the "material aspects of an object and the stuff of which it is made" (Schäfer 2011, 19). He describes affordances as "the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used" (Norman, The Psychology of Everyday Things 1988, 9). In new media studies, the concept of affordances by Norman is used to analyse technologies in relation to humans. An affordance of an object, thus, refers to the relationship between this object and the agent that interacts with it. In other words, the properties of the object and the capabilities of the agent combined.

Norman's definition, however, has led to ambiguity within the academic discourse surrounding the term. In a later article, Norman adds the concept of *signifier* to solve this confusing over the appropriate way to use affordances. He defines a signifier as "some sort of indicator, some signal in the physical or social world that can be interpreted meaningfully" (Norman 2008). According to Norman, designers struggle to understand affordances, as they do not point out design elements but rather the relations between objects and individuals. In the 2013 edition of *The Design of Everyday Things* he adds the term and states that "[a]ffordances determine what actions are possible. Signifiers communicate where the action should take place" (Norman 2013, 14). Signifiers, thus, provide valuable clues on how to use certain objects, what actions are possible and how they should be done. For example, the affordance of a certain

door is that it opens inward. Without any signifier, no doorknob, handle or push bar, the perceived affordance is that it may open inward or outward. If the signifier of a push bar is placed, it is immediately clear that you need to push the door to open it. To identify affordances users have to negotiate while making a selfie, I adhere to communicative affordance as coined by Andrew Schrock.

3.2 Communicative affordances

Scholar Andrew Schrock has elaborated on the specific qualities of mobile devices that have changed the way we communicate in his paper *Communicative Affordances of Mobile Media*. He argues that communicative affordances refer to the interaction between people's communicative habits and the way these are afforded and altered by the properties of mobile media. In his words, communicative affordances are "an interaction between subjective perceptions of utility and objective qualities of the technology that alter communicative practices" (Schrock 2015, 1238).

Communicative affordances enable new ways to accomplish an individual goal (Schrock 2015, 1233). For example, sharing ones physical progress in the gym with a friend used to be by actually visiting that friend to show your muscles. In the current day the broadcast affordance of social networking sites provide a new way to achieve this goal. These affordances cannot be conceptualized by visual inspection alone. In order to address the specific affordances of mobile media, Schrock first defines their shared properties as "a class of mobile devices, including cell phones, smartphones and tablets that integrate multimedia (typically a microphone and camera), an always-on network connection, and often, the running of mobile software or "apps" (Schrock 2015, 1234). Schrock derives four key affordances that define the way mobile media allows us to communicate: portability, availability, locatability and multimediality.

Firstly, portability refers to the fact that we can carry our mobile devices everywhere and use them in different places. Schrock defines portability as "perception of physical characteristics such as size and weight, as well as those evaluated through use, such as battery life" (Schrock 2015, 1236). Portability has also a large influence on the selfie. Although a selfie can also be taken by a webcam, its popularity started around 2010, when the (front face) camera phones also started to improve. As the element physical space from the selfie assemblage is also an important part of self-representation, high level of portability is needed.

Secondly, mobile media offer users the possibility to be available all the time. However, we can choose if we want to be available or not, by for example disabling Facebook notifications. According to Schrock, mobile media's communication

affordances of availability can be thought of as a combination of *multiplexity*, direct contact, and increased frequency (Schrock 2015, 1237). This means that texting, (video) calls, and social media are all available simultaneously. The selfie works at the nexus of multiplexity, where users can make a selfie and post them to social media at the same time. A user can however choose to turn of notifications on Instagram when a selfie is posted on that particular platform. The affordance availability is, thus, connected with the possibility to tune in and out within a users comfort to make communication possible (ibid.).

Thirdly, locatability can be derived directly or indirectly. Directly it means that our mobile media devices (can) register our location through GPS technology or through text and calls. The affordance of locatability can be used in a wide variety of ways. Locatability doesn't just afford mobile devices to identify locations; it can also be used to add information to such places, for example the app Foursquare (Schrock 2015, 1238). Although selfies are not directly linked to locatablity, *through* selfies people often show their location. Hereby locatability is derived indirectly from the content of the photo. A photo with for example the Eiffel Tower in the background is intended to share ones current location and it is a part of the intended message. Also, by sharing a selfie on online platforms like Instagram, it is possible to include ones location.

Lastly, all the different properties of smartphones define mobile media's multimediality. Schrock points out that "[t]he integration of cameras with connected devices corresponds with a rise in emotive and communicative visual communication that supplements and extend existing practices" (Schrock 2015, 1238). You don't need a separate camera, phone, GPS, laptop, instead everything is now concentrated in one mobile device, which points out the affordance of multimediality. Selfies are the product of this multimediality: you take a photo, edit it, and share it via a social media platform.

3.3 Tracing affordances

Selfies are made with the smartphone that we carry around with us. These devices are complex cultural artefacts through which different kinds of social practices are connected such as a camera, social networks, and application designs. What, then, are the affordances on smartphones related to self-representation? Above I discussed the key communicative affordances of Schrock in relation to selfies, in this section I will trace the affordances that individuals are drawing on in the practice of making a selfie. A detailed description of the design elements (signifiers) offers the possibly to identify the affordances. To do so I analysed the iPhone 5s and the Samsung Galaxy S5 on three

levels that users have to interact with to create a selfie: hardware, operating system and camera software.

The operating system that runs on this particular iPhone is iOS9. The Galaxy S5 is an Android smartphone and, the phone that I study runs the operating system Android 5.1 Lollipop. Due to the fact that Android is an open source operating system, different manufacturers have different functions. Therefor different smartphones do not only have different hardware, but also the camera app can be different. Samsung is the biggest contributor of Android phones (International Data Corporation 2015), and therefor I use one of their popular models to analyse the camera app.

3.3.1 Hardware

The hardware of a smartphone is an important factor when purchasing a smartphone, as people judge smartphones on the quality of the camera (Schrock 2015, 1238). The iPhone 5S was released in September 2013 along with its mid-range counterpart, the iPhone 5C. In comparison with its predecessor, the camera has been updated with a larger aperture and a dual-LED flash optimized for different colour temperatures. The Samsung Galaxy S5 was praised for its camera amongst others when it was released in 2014. The rear camera has 16 megapixels and an aperture of f/2.2. The front-facing camera has 2 megapixel and allows high definition video recording. The rear camera of the iPhone has 8 megapixels and an aperture of f/2.2, and a front-facing camera with 1.2 megapixels. Both smartphones have the possibility to use the volume button on the side as a shutter button.

3.3.2 Operating system and camera software

Both phones have the possibility to go directly to the camera app without logging in, by swiping the camera icon on the bottom right corner of the start screen. With the iPhone, you enter the same camera environment as that you would enter the camera app from the main interface. With the Samsung however, there are limited options available, as you cannot for example change the settings when not logged in.

When you enter the main interface of the camera app on the iPhone it is automatically using the rear camera of the phone (see figure 1). Several signifiers immediately catch your eye. In the top bar there are four options visible: the possibility to turn the flash on and off, the possibility to use high dynamic range, the self-timer and the option to flip from the rear camera to the front-facing camera. As the iPhone 5s does not have a flash function on the front-facing camera, it is not visible on the second

screenshot. On the bottom of the screen there is one large shutter button, which is to capture a photo. On the right there is the option for filters and on the left you see the last taken photograph. Above the button there is the mode of the camera. The mode is now set on 'Foto' (photo) but if one swipes to the right or left, the modes time lapse, slow motion, video, square and panorama are possible. The front-facing camera only has the modes of square, photo, video and time lapse.

Differing from the iPhone, the Galaxy camera app automatically starts the camera, front-facing or rear, that is used before (see figure 2). Several signifiers are visible in the camera app. The most obvious signifiers are the shutter button with the camera icon, and the video button, which allows you to make a video. Clicking the signifier of the wheel in the top left corner can change the settings of the photo. Some possibilities are only for the rear camera, for example the effects. Although you cannot see the filters immediately using the front-facing camera, they can be applied afterwards. In the left bottom one can choose several modes (or in Dutch as on the screenshot in figure 2: stand). Next to the automatically mode there is the beautify option (in Dutch: gezichtscorrectie). It is set at level 3, with the possibility to change it from 0 (no correction) to 5 (full correction). Beautify means that it reduces the sharpness to smooth unevenness. Other modes are burst pictures and dub pictures. Users have the possibility to download more modes if they wish. When the front-facing camera is activated, face recognition automatically starts by a circle around the face.
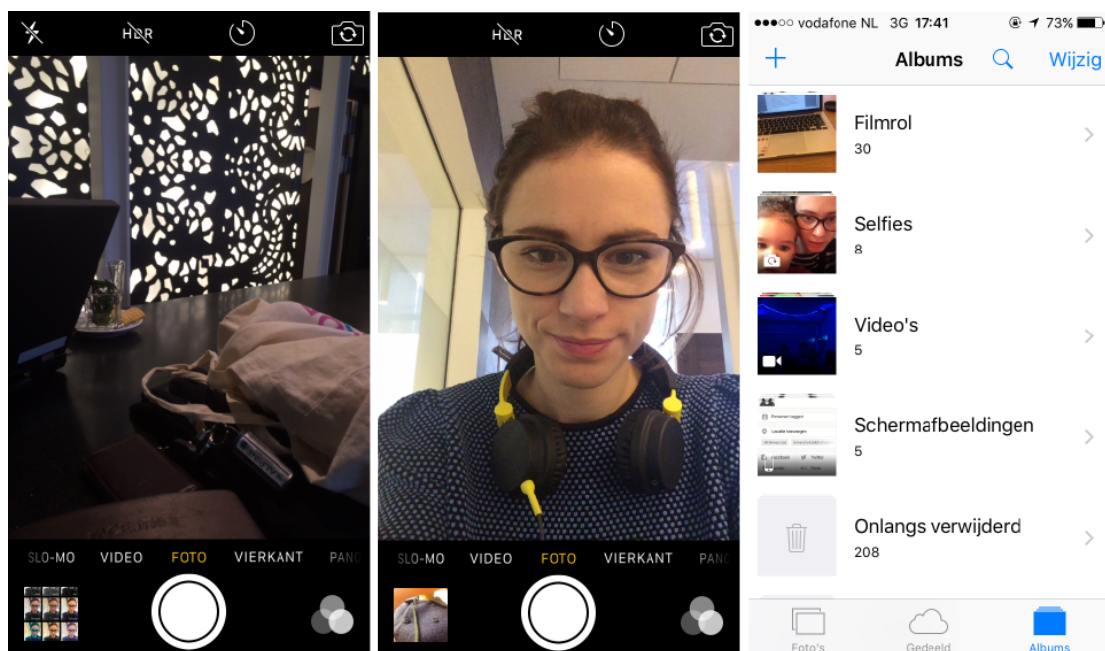

Figure 1: Screenshots of the rear camera and front-facing camera, and the folder structure of the iPhone 5s with iOS 9.

This way, the face is in focus. This can be changed manually, by tapping somewhere else.

The iPhone has a lot less visible signifiers than the Samsung, but there are several more actions possible through hidden signifiers. One can for example zoom in and out using the thumb and index finger. Tapping anywhere on the screen can set the focus and exposure automatically. There is also the possibility to manually adjust the exposure before taking a photo by swiping up or down after tapping on the screen. Besides setting focus and exposure, the iPhone also allows to lock these variables by holding the finger down for a couple of seconds. Another option is to shoot in burst mode, which means to take a couple of photographs at once, for example while shooting a moving object. To activate burst mode one has to hold down the shutter button and the iPhone will start taking photos. The iPhone 5s can get as many as ten photographs in one second.

When one makes a photograph with the front-facing camera, iOS 9 automatically creates a folder 'Selfies' and adds the photo. This shows that almost every photo that is shot with the front-facing camera is considered a selfie. Videos that are shot with the front-facing camera are also put in that folder (as well as in 'Videos'). By doing so, the phone makes a record of all self-representations, hereby creating a stream of 'profile pictures' through time. The Galaxy does not make a different folder for selfies, however it does use the word 'selfie mode' in their successor, the Galaxy s6.
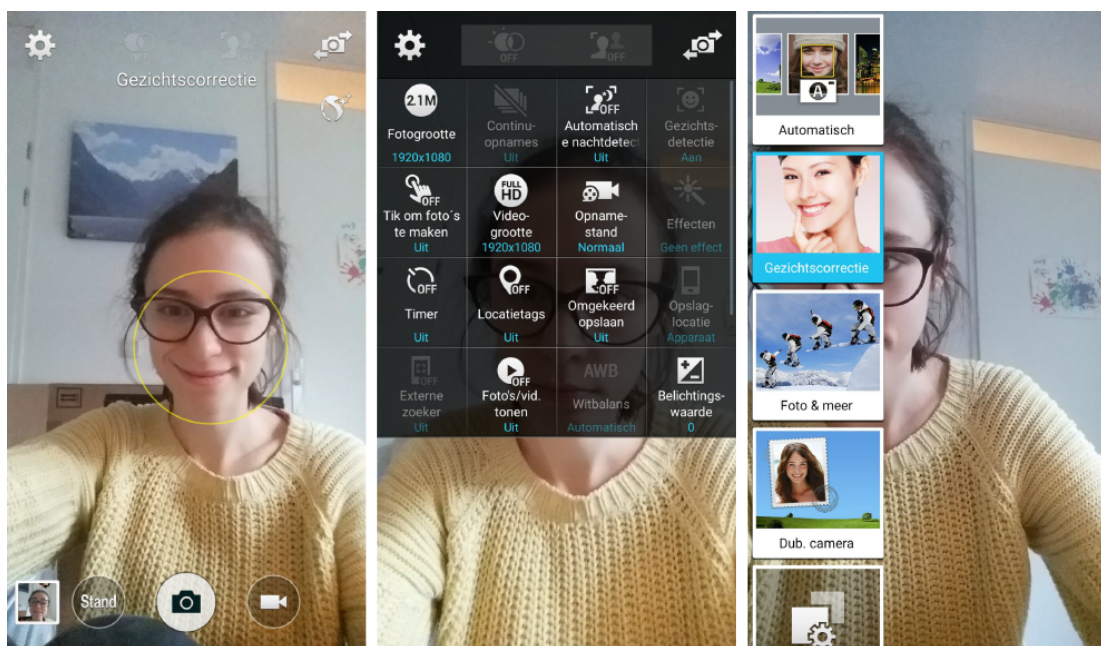

Figure 2: Screenshots of the front-facing camera of the Samsung Galaxy 5 with Android 5.1 Lollipop.

Other manufacturers that use Android, like HTC, have also embedded the word selfie as a mode for the front-facing camera (HTC 2014).

The new Samsung Galaxy S6 was released mid 2015 and has a couple of new features, which indicates the selfie trend that is happening right now. Blogger Quentyn Kennemer from the website Phandroid showed the new features of the front-facing camera (figure 3). The first difference is that the front-facing camera is now called 'Selfie' and has the option 'Wide selfie'. Furthermore it is now possible to set the beautify option to eight instead of five at the S5. Furthermore Kennemer points out two new options to take a selfie. The first option is to "take a selfie by holding your finger on the heart rate sensor for 2 seconds" (Kennemer 2015). The second is the possibility to initiate a countdown timer by waving your hand in front of the camera to eliminate the need to use the second hand to take a photo.

3.3.3 Affordances in the light of self-representation

On the basis of the exposed signifiers, I propose five affordances that are related to self-representation within the camera. First is the affordance *simultaneity*, which are linked to the signifier of the shutter button and the front-facing camera. Simultaneity is the ability to simultaneously see and record oneself. This affordance is unique for the advent of the selfie, as "no other medium until digital photography permitted you to see yourself in real time on a front-facing screen" (Warfield 2014). Underlying this affordance is the recurring issue of control, as simultaneity gives a user the feeling of an
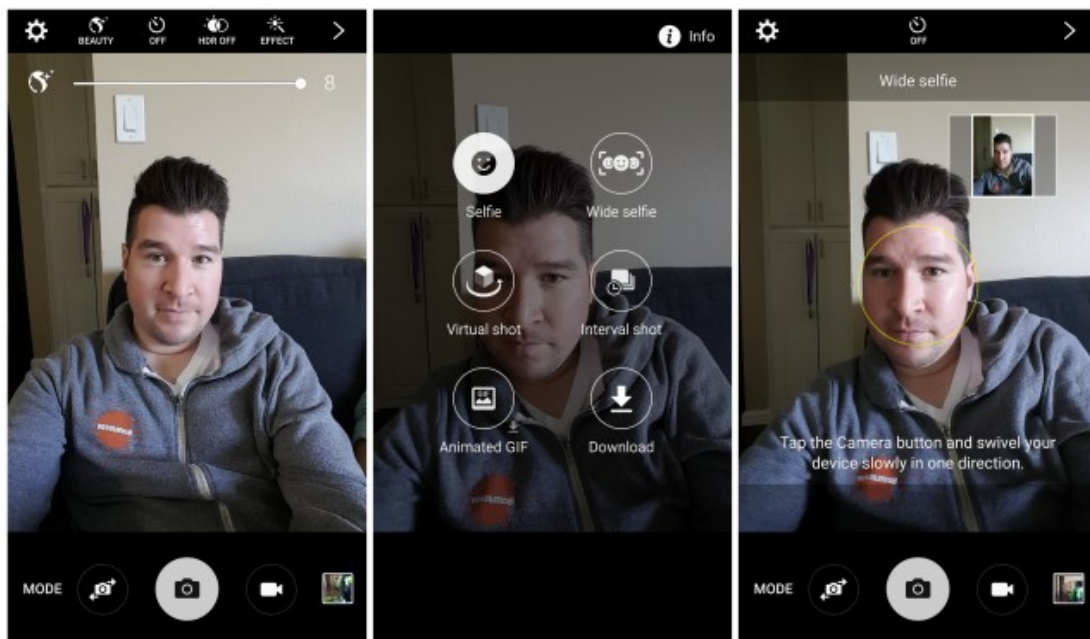

Figure 3: Screenshots of the front-facing camera of the Samsung Galaxy 6 with Android 5.1.1 Lollipop (Kennemer 2015)*.*

increased command over the outcome (Walker Rettberg 2014; Van Dijck 2008). Simultaneity can work in combination with other affordances. For example, the portability makes it possible to move around, by which a user can immediately see if he or she likes the background of the photo, and when satisfied, can shoot the selfie.

The second affordance is *editability*, which is the ability to resize and edit an image with tools such as filters. During the photo, filters can be put on so one sees him or herself being filtered before actually taking the photograph. Interfaces such as Instagram allow a user to filter a photo after its been taken. Images can thus afterwards being edited, resized, tilted or cropped. Editing our photos with filters have consequences for our self-representation as "[t]echnological filters allow us to express ourselves in certain ways but not in others" (Walker Rettberg 2014, 23). There are always limitations given by the interface, for example it is possible to apply certain filters to our image on Instagram, but not others.

The third affordance is *revisability*, which points out that images can be revised. A user can make as many selfies as he or she wants. These photos are all in one folder, ready to be revised. After which the user can choose the one he or she wants to share and delete the rest. Due to the inexpense and ease to make selfies, people often make multiple selfies so they can choose the one they like most. For example, blogger Marianna Hewitt explains in her video "How I edit my Instagram photos" that she usually takes a bunch of selfies after which she chooses the one she likes best (Hewitt 2015).

The fourth affordance is *reviewability*, which means that images do not fade over time, but can be reviewed within an interface. When one shares a selfie on a social media platform such as Instagram, they will be available to go back to. In Walker Rettberg words, selfies are therefor "cumulative rather than presented as a definitive whole" (Walker Rettberg 2014, 35). Reviewability makes it possible to make a serial of visual identity performance.

The fifth and last affordance is an inherent feature of photograpy, the ability to freeze a moment in time, defined here as *timeslicing*. It means that it is possible to select a specific moment and record it. Typically the moment you are smiling (say cheese) or stand a little more erect, hold your breath to show your sixpack. As such it makes it possible to create and present a favourable image of oneself.

Tables 1 and 2 show an overview of the communicative affordances and the self-representation affordances. This chapter has given the foundation of the following chapter, which will take a close look at fitness selfies to determine how interact with the identified affordances to shape their self-representation.

Table 1: Communicative affordances in mobile media

Portability	Perception of physical characteristics such as size, weight, battery life.
Availability	Individuals can *tune in or out* within a user's comfort to make communication possible.
Locatability	Individuals can communicate their location (knowingly or unknowingly) via GPS or text.
Multiplexity	Individuals can use the different properties available in a smartphone.

Table 2: Self-representation affordances in mobile media

Simultaneity	Individuals can simultaneously see him or herself and record him or herself.
Editability	The ability to resize and edit images with tools.
Revisability	Images can be revised before being sent.
Reviewability	Images do not fade over time but can be reviewed within an interface.
Timeslicing	The ability to freeze a moment in time, making it possible to direct the content of the image.

4. Self-representation in fitness selfies

In chapters 2 and 3, I explored the processes of mediation that shaped our self-representation in digital culture, as well as the role of technical and interface affordances upon the creation of self-representation on smartphones. This chapter seeks to determine how selfie-takers use these technical and interface affordances to represent themselves within fitness selfies and thereby answer the third sub question (how do selfie-takers use these technical and interface affordances to represent themselves within fitness selfies?). First, an explanation of the method will be provided. The second section is devoted to the analysis of fitness selfies, exploring how mediation processes work within fitness selfies on Instagram by discuss the three processes of mediation, institutional, cultural and textual

4.1 Conducting fitness selfie analysis

As laid out in the introduction, the data of 196 fitness selfies is collected through the website If This Than That. The scrape collected Instagram photos with the hashtag #fitnessselfie and/or #gymselfie on October 16th and ended October 22nd. Of the collected selfies, 28 deleted their selfie from Instagram and 27 used one of the hashtags but did not actually upload a selfie. These images were mostly inspirational quotes related to working out in the gym, healthy food, images of fitness equipment and photographs that other people made of them. Furthermore, the taglines were all written in English, and even a few in Dutch, so I did not have to eliminate photographs due to language issues. The remaining 141 fitness selfies were analysed through qualitative content analysis, using aspects of ethnographic content analysis. The results of this analysis serve as a foundation to identify the five self-representation affordances as laid out in chapter 3.

Qualitative content analysis is used to describe the meaning of qualitative material in a systematic way (Schreier 2012, 1). Just as qualitative content analysis, ethnographic content analysis is a method that allows more nuanced interpretations than the conventional quantitative content analysis. In this analysis I use aspects of ethnographic content analysis to understand the communication of meaning. First, by finding overlapping concepts in the selfies, I aim to determine themes. This progression from data collection to interpretation is intended reflexive to be open for "constant discovery and constant comparison" (Altheide 1987, 68). In the next part I explain how this interpretation of data has led to the final categories.

To start with, the data has been imported into Google Drive. The elements of the selfie assemblage (Hess 2015) of the obtained selfies have been observed to recognize and understand the different forms of selfies. Next to the visual elements, I also observed the title of the selfie and the hashtags that are being used alongside #fitnessselfie and/or #gymselfie. In a new column in Google Drive I wrote down my observations per photo. First the self has been observed, paying attention to the perceived user emotions and use of mirror. Secondly, I focussed on the place where the selfie was taken. Thirdly, I looked at the device: the camera being used (front or rear), and specifically on how the selfie-taker used the software to, for example, edit the photos. The last element of the selfie assemblage is network, but as my focus is on the technical and interface affordances of the smartphone that is used, I did not research the network in which the selfies are shared.

After observing the selfies, I recognized repetitive themes and categorized selfies within those themes. The most obvious theme was the before-and-after photo, where selfie-takers share their starting point and current state of their body. The places of the selfies are almost invariably made at home, using the rear camera and a mirror. The software of the device is being used as the images are obviously edited to a comparative parallel photo. I called this category *statement of muscle growth*. The second repetitive theme was the selfies that focussed primarily on the muscles of the selfie-taker. The self was not subject of the photos, but rather the chosen muscle such as the arm or back. A mirror is often used to frame the chosen area. The place of the selfie is usually the gym, but they are also made at home. I called this category *statement of pride*. In the third theme, the self became subordinate to the place. These selfies were all taken in the gym, and were thoughtfully framed so it was obvious that they were in the gym. This was done by for example showing weights or fitness equipment. I called this category *statement of place.* The fourth theme had its main focus on the self. It made use of the front-facing camera and people were looking in the camera. These photos were taken during or after a workout and often showed some sign of discontent, via perceived emotions and/or the tagline. The place was not important and often not recognizable on the picture. I called this category *statement of complaint*.

Next to these four categories, I recognized another recurring theme: the group selfie. In this case, the front-facing camera is being used and focuses on two or more persons smiling. The self is, thus, subject of the photo together with the friend(s) and the place is the gym. Compared to the regular group selfie, the group selfie taken at the gym has only the place as static variable. However, little to no reference is made to the

place. Due to this fact and my focus on fitness selfies specifically, I decided to leave this category from my analysis.

After I decided upon the four categories, several selfies have been chosen from each category for further analysis, using "purposive sampling" (Berg 2001). This means that on the basis of the theoretical framework of chapter 2 and 3, several selfies are selected that best illustrated a certain category. Purposive sampling is used in ethnographic content analysis, as the researcher is "reflexive and makes decisions in response to empirical findings and theoretical developments that occur in the study" (Guetterman 2015).

4.2 Fitness selfies analysis

In this section I will address the aforementioned statements with a descriptive analysis that enables an understanding of the manner in which selfie takers actually technical and interface affordances to create a fitness selfie, and the influence of processes of mediation.

4.2.1 Statement of muscle growth

Many selfie-takers that use the hashtag #fitnessselfie or #gymselfie are keeping track of their muscle growth and show this by means of a comparative parallel photo (Figure 4). Users take a couple of photos in a span of time. The first photo is often used as a benchmark of a certain trajectory, and the latter changes with the progress he or she is making. This way the transformation of a person can be followed. The creation of this type of selfies took a relative big effort after making the photos to select the desired photos, to edit them both to one combined photo. As such they used several self-representation affordances in mobile media.

To recall the discussion of the unmediated ideal from section 2.2.1 in this thesis, selfies "promise to deliver authentic accounts of individual 'ordinary people'" (Thumim 2015, 4). When users post fitness selfies as a statement of muscle growth, they aim to show the purest of themselves, in good and in bad shape. Male selfie takers often show their bare upper body and female selfie takers are often in bikini, underwear or a sport top, showing their body and how their muscles have grown. However, the selfies are posted on Instagram, which means that the self-representation is thus shaped by the institution of Instagram and thereby institutional mediation is at work. This manifest itself in statements of muscle growth consisting scantily clad people, though it is not permitted to post nudity. This means that there are not only processes of institutional

I might have been smiling but I definitely wasn't happy   #tbt #fatgirl #chubs #thathatthough #laflare #gymselfie #transformation

It's been 7 weeks today since I signed on with @fitbodyfusion and@_angelarutherford_ and I'm finally starting to see the changes with my own eyes! Our image of ourselves is a funny thing. People have been telling me for weeks that they see the changes. My coach and my trainer tell me all the time. I wasn't able to see it myself until this morning. I still have a ways to go but I am so proud of myself for the progress I've made. God is Good!!!

145 lbs Before and after #progress 15% gym workout the rest diet and supplements like powder Protein, mega men sport multivitamin, fish oil, probiotic, pre workout, amino acids, thank you GNC #myprogress #postgym #gymlife #gymmotivation #gymmotivation #gnclivewell #diet #dietlife #tryingtogetripped #gymprogress #cardio #weightloss #weightlifting #重量挙げ #ダイエット #フィットネス #fitnessselfie #エクササイズ #フィットネス進展

Figure 4: Three selfie takers who show their muscle growth by showing before and after pictures in comparative parallel photos.

mediation but also cultural mediation at work. In Thumim's words, a user must have a "strategy of representation" (ibid., 8) while uploading a fitness selfie. Statements of muscle growth are a vivid example of these strategies; they purposefully took a selfie at the beginning of their trajectory so they could show their process afterwards

The affordance of reviewability is best shown here. People look back at previous selfies, review them, and place their new selfies in a series, "watching how the subject changes" (Walker Rettberg 2014, 38). The affordance of editability is also at work here, as the selfies have to be edited to put them into a collage, thus choosing what to frame.

Interestingly, statements of muscle growth are often taken at home, instead of at the gym. This is not necessary as the portability of the phone makes it possible to be carried to the gym. However, the comfort of ones home gives a selfie taker a sense of privacy, making "the moment of photography […] intimate" (Walker Rettberg 2014, 44). A user can find a good angle, take multiple images and revise them before uploading them. By taking a selfie at home, they also avoid processes of institutional and cultural mediation of the gym. Furthermore, statements of muscle growth often

make use of a mirror to show their total body, as the usual arm length of the classic selfie does not allow a total view.

4.2.2 Statement of pride

Whereas statements of muscle growth are often taken at home, statements of pride are usually taken in the gym. Some gyms notice this tendency to take pictures of oneself in front of the mirror and sometimes even encourage this, which is shown in Figure 5 ("spejl" is Swedish for mirror). When a user makes a statement of pride, he or she communicates their achievement. This is also the case at statement of muscle growth, but in the latter the emphasis is more on the series. For males, expressing statements of pride, this is also called spornosexual practice (Hakim 2015). In statement of pride, the emphasis is on this moment and how the selfie taker wants to communicate the current state of being. Figure 5 shows three selfie takers who show their achievements in the gym with the use of a mirror. The high level of portability of a smartphone makes it easy to bring along to the gym. The gym is also an inviting place to take photographs, as there are a lot of mirrors. The Swedish fitness company Friskis&Svettis even used the popularity to take selfies in the mirrors to promote themselves (Volt 2013). This means that users have an understanding on how to represent themselves, which indicates

#happysunday #fitfam #workout #fitness #fit #fitnessselfie #selfie #fitnessgirl #girlswholift #girlswithmuscles #lift #mcfit #blonde #instadaily #picoftheday #startyourdayright #machdichwahr

Biceps on the rise   - so far 13 kg lost #selfiespejl #fw #myfw #fitness #fitnessworld #biceps #fitnessselfie #weightloss #bodycross @bodycross #getfit #fitfam #workouttime

Sixpack incoming! #fitness #fitnessaddict #nopainnogain #bodyinprogress #motivated #inspiration #sixpack #shrdd #staydedicated #bizeps #fitnesslifestyle #fitfam #fitnessselfie #workhardplayharder #workout #whitetanktop #shoulderslikeboulders #pumpingiron #pump #cleverfit #chestday

Figure 5: Three selfie takers who use a mirror to communicate pride by showing their achievements.

processes of cultural mediation (Thumim 2015, 144). In the case of Friskis&Svettis there are also processes of institutional mediation at work, as they encouraged people to post a selfie online. The campaign went so well that they had to ban selfies in the locker room as "innocent, sometimes not fully clothed, bystanders getting unintentionally exposed" (Volt 2013). As seen in Figure 3, Friskis& Swittis is not the only fitness company that used the popularity of the mirror fitness selfie.

In these cases, affordance of locatability and multimediality make it easy to share a selfie in the gym, as "[t]aking pictures and videos through mobile devices are now a commonplace activity" (Schrock 2015, 1238). The affordance of locatability makes it interesting for advertising agencies, but also for users who want to communicate their location. Statements of pride are also very reliable on the timeslicing affordance of smartphones, and photography in general. They want to look best, which means that they want to show their Instagram followers their flexed muscles. Therefore they 'slice' a moment of time that their muscles are flexed, to share.

4.2.3 Statement of complaint

In a statement of complaint, people express their feelings about the workout, from being sore to sweating heavily. Statements of complaint are often communicated in the classic way of the selfie: with the front-facing camera at arm length. An explanation for this is that the statements of pride and muscle growth are more focussed on a certain body part, which is easier to photograph using a mirror. The statement of complaint, however, communicates an emotion. This shows clearly the affordance of simultaneity,
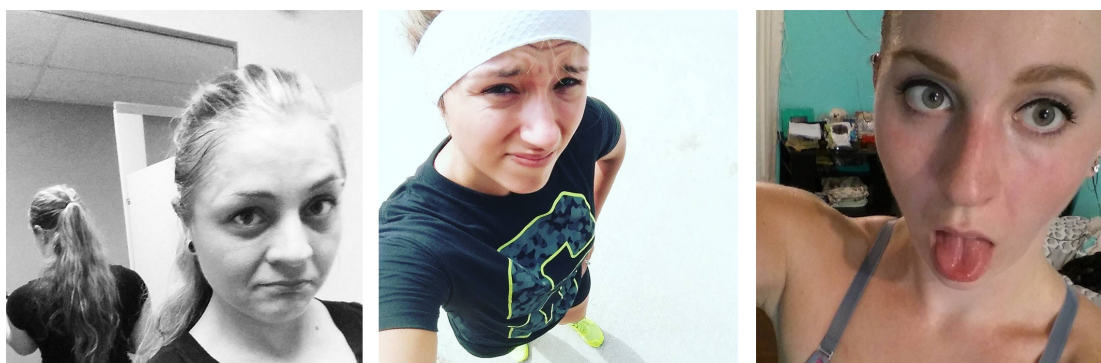
#HIIT and abs. My legs are j-e-l-l-o. Time to let the ol girls rest :) #fitchick #cardiokilla #getitdone #runner #fitjourney #fitmom #fitness #gymselfie #gymlife

Running may be the death of me. #run #running #isuckbutidontcare #runlikeagirl #fitness #getfit #newshirt #sweaty #self #fitnessselfie

Sweaty #insanity day 2! Already sore! Can't wait for the 15 day test to see how much I'm gonna improve!! #strongnotskinny #fitnessselfie

Figure 6: Three selfie takers communicating statements of complaint.

which allows a user to see and record him or herself at the same time. Using the front-facing camera communicates a more personal message, a more "intimate sense of self" (Hess 2015, 1633), than using a mirror, as one is in that case hiding behind their own smartphone. High level of simultaneity thus, communicates a strong sense of authenticity.

The users in figure 6 all show discontent in their facial expressions. This is extra remarkable as they all place themselves as the subject of the photo. The first one has edited her photograph by making her selfie black and white, employing the affordance of editability. In the last photo, the affordance of timeslicing plays an important role. Her caption shows that she has been working out and just finished. However, she is still sweaty. By immediately taking a selfie she communicates that she has been working out and that it was not easy.

4.2.4 Statement of place

Statements of place are communicating location through the selfie. By showing the surroundings of the gym they are letting their followers know where they are. The emphasis in this case is primarily on the physical space, and secondarily on the self. As Hess explains, selfies are a form of place expression, "meaning that selfies are about the placement of one's self in a place at a time" (Hess 2015, 1636). Figure 7 shows three selfie takers who communicate their location through their selfies. In the first two selfies, the user takes up significant less space that the surrounding. The middle user even cut off half of her face to show the gym. The third selfie taker is using a mirror to represent himself. Although there are several mirrors, he specifically choses a spot with several weights are stacked. The choice to have these weights significantly in the picture signals a statement of place.

Although most of the smartphones have GPS, the affordance of locatability is not exclusively defined by GPS coordinates. Individuals can also share their location through SMS texting and phone calls (Schrock 2015, 1238). In this case, users rely on the affordance of multimediality and use photographs to communicate their location. Although photos are not particularly useful when arranging meetings, they do communicate a location, and in the case of the gym, a location that is bound to a certain activity. Statements of place are also drawing on high level of portability, as the device is taken to the gym. A moment is chosen which can only happen inside the gym, thus employing low level of timeslicing. Instagram offers the possibility to include GPS location as well, but this requires the user to upload the selfie on that location.
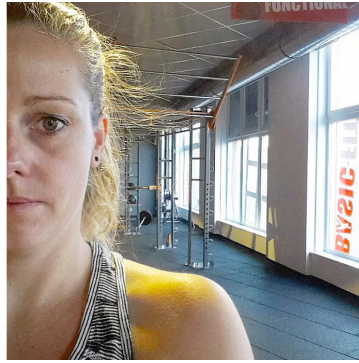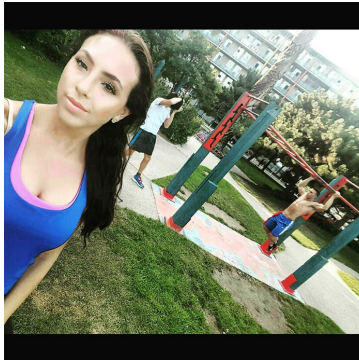
#flashbackfriday #throwbackfriday to the #summer with this #beautyofagf #torontotrainer #flexfriday #stunner #torontofitness #torontolife #fitcouple #fitnessmodel #fitnesscouple #couplesthatlift #bestfriend #sexysummer #summerdays #sexy #beautyandthebeast #mygf #xoxo #couplegoals #cutecouple #coupleswhoworkout #traintogetherstaytogether #loveher

Het was koud, mistig en vroeg maar maar lekker rustig want om 9:00 uur vanochtend deed ik (grote zus) weer een benen training van #mykillerbodymotivation

#naildit #yesican #mkbm #summerbodyinprogress #summerbody2016 #sportylifestyle #sportygirl #girlswhosport #girlswholift #healthylifestyle #earlybirdy #fitness #fitnessselfie #workout #girlswhoworkout

My morning ... #gymrat #gymbunny #weights #fitness #gym #puregym #puregymmotherwell #motivation #nike #guyswithtattoos #guyswithbeards #beards #beard #beardgame #beardlife #selfie #fitnessselfie

Figure 7: Three selfie takers who show their surroundings to communicate their location, thus employing statement of place.

Statements of place are also encouraged by the gym itself, as seen at the statement of pride. In this sense, a gym invited its members to take a selfie in the mirror. Processes of institutional mediation are thus at work.

4.3 Self-representation in fitness selfies

This chapter has identified four categories within fitness selfies: statement of muscle growth, statement of pride, statement of complaint and statement of place. The analysis of these practises has explored their implications, looking at the mediation processes and technical and interface affordances. The results have gone towards answering the third sub questions: How do selfie-takers use these technical and interface affordances to represent themselves within fitness selfies?

In section 2.2 of Chapter 2, I explored the mediation of self-representation and the commonly held belief that selfies allow people to represent themselves in a unmediated way. However we have seen that in the case of fitness selfies, processes of

textual, institutional and cultural mediation are always taking place when a user creates and shares a fitness selfie on Instagram. First there is the gym that invites members to tell their story, practicing institutional mediation. They do so as mirrors have a very appealing allure for selfies, sometimes even actively asking (see figure 5). As Instagram is part of Facebook, and has several guidelines that frame an individual's self-representation, members have to represent themselves textually in order to participate (Thumim 2015, 58). Also, in a gym there are several understandings and expectations regarding taking selfies, thus practicing processes of cultural mediation. Cultural formations of members and expectations shape their self-representation. The form and content are within certain categories, pertaining to textual mediation.

Next to processes of mediation that are at work, users engage with several interface and technical affordances as laid out in chapter 3. The level of interaction differs though, and users appropriate certain affordances more and less to convey social norms. To put more emphasis on body exposure, a mirror is frequently used. Although simultaneity highlights a level of the "authentic self" (Hess 2015), users often appropriate this to shift the focus from the self to their body and the physical space. To make these parts of a cumulative series, they employ the use of editing tools and put them next to each other.

5. Conclusion

As the trends of "strong being the new skinny" (Kiberd 2015) and the increasing popularity of selfies flourish together, the fitness selfie have been widely adopted on social media platforms. The fitness selfie is embraced as well as repudiated, with advocates claiming keeping track of your fitness journey inspire better living, and the adversary calling the fitness selfie the worst type of selfie of a narcissist era. As fitness selfies continue to infiltrate social media platforms, practices of self-representation needs to be re-evaluated, as such practices are mediated and shaped by interface and technical affordances. However, affordances are an often-overlooked component of studies into selfies, which are often linked to gender and communication studies. This thesis, then, has undertaken an exploration of the interface and technical affordances that people employ to create self-representation in their fitness selfies.

To answer the first sub question of this thesis (*In what ways are mediation processes at work in self-representation practices through mobile technologies?*) this thesis first addressed the notion of self-representation and mediation. Although selfies are considered being authentic, there must always be choices about what to represent and what not, thus deploying strategies of self-representation. Furthermore, self-representations come about through conventions, affordances, institutional requirements and more. These are all processes of mediation, making self-representations in digital media always mediated.

Subsequently I explored the role of interface and technological affordances by answering the third sub question (*How is self-representation reflected in the design and affordances of smartphone camera software?).* After introducing the term I reviewed Andrew Schrock's communicative affordances (2015), which provided a general framework to look at mobile media. However, to identify the specific affordances regarding to self-representation, a closer look was needed. Via the signifiers of iOS 9 and Android Lollipop 5.1 I identified five affordances that are linked to self-representation through mobile media: simultaneity, editability, revisability, reviewability and timeslicing.

Through a qualitative content analysis of fitness selfies I explored how users on Instagram used the self-representation affordances to make their self-representation. As such I answered the third sub question: *How do selfie-takers use these technical and interface affordances to represent themselves within fitness selfies?* In the analysis I find that the selfies can be broadly categorised in four statements. Within these statements I

explore in what ways selfie-takers use the affordances to create fitness selfies, for example how users included earlier photographs by making use of reviewability.

Then, how and in what ways do smartphones shape self-representation in fitness selfies through technical and interface affordances? Although selfies have this authentic appeal, users always have to negotiate with affordances to create a selfie. These affordances largely shape their self-representation. Some of the affordances are inherently within the selfie such as timeslicing and simultaneity. For example, whether one uses a mirror or the front-facing camera, he or she is automatically framing oneself. Moreover, the affordance reviewability offers the comparison with earlier representations. Besides the affordances that users have to negotiate with, all fitness selfies on Instagram are mediated through institutional, cultural and textual processes. These processes shape how we use the affordances and how users expose themselves on fitness selfies. Therefor, the social practice of selfies is indissoluble connected with the interface and technical affordances that user have to negotiate by making and sharing a selfie.

5.1 Suggestions for further research

Within the field of selfies, there are a lot of research opportunities to further investigate. In this thesis I have especially looked at the case of the fitness selfie, and more specifically on affordances that users have to interact with while making and sharing a fitness selfie. Despite the value of this thesis, the genre of fitness selfies did not cover all the self-representation affordances. In this case, the affordance revisability and editability offer possibilities for a deeper understanding, as it is not possible to know from the actual photo how the revisability process has been and if the user used other external apps to edit their selfies. Further research could use this framework of self-representation affordances and study the use of affordance in other genres of selfies. It might be that some affordances have higher or lower levels at other genres.

Moreover, as stated in the introduction, this thesis did not focus on gender but rather looked at the affordances. However, further research in the field of gender would be helpful to investigate the way in which selfie takers rely on social norms. Although selfies have this authentic, liberating appeal, takers of fitness selfies do exist in social norms as showed in the above.

Another line of inquiry that offers interesting insights is to research the use of hashtags in relation to selfies. During my research I stumbled upon several images that were tagged #fitnessselfie but did not showed a selfie. These pictures were often inspirational quotes or other graphical images. This opens possibilities for interesting

research, as people thus like to call non-selfie, selfies. Following this subject, fitness selfies are often accompanied by a whole range of hashtags. This questions the importance of the hashtag.

Bibliography

Tiidenberg, Katrin, and Edgar Gómez Cruz. "Selfies, Image and the Re-making of the Body." *Body & Society*, 2015: 1-26.

Albury, Kath. "Selfies, Sexts, and Sneaky Hats: Young People's Understandings of Gendered Practices of Self-Representation ." *International Journal of Communication* 9 (2015): 1734–1745 .

Altheide, David L. "Ethnographic Content Analysis ." *Qualitative Sociology* (Human Sciences Press) 10, no. 1 (1987).

Apple. *iPhone 6s.* 09 09 2015. http://www.apple.com/iphone-6s/.

Augenstein, Neal. *Selfie-posting men lean toward narcissism, psychopathy.* 15 01 2015. http://wtop.com/apps/2015/01/selfie-posting-men-lean-toward-narcissism-psychopathy/.

Berg, Bruce L. *Qualitative Research Methods for the Social Sciences .* Long Beach : California Stole University, 2001.

Brennen, Bonnie S. *Qualitative Research Methods for Media Studies .* Hoboken: Taylor and Francis , 2012.

Chastain, Braiden. *Why You SHOULD Be Taking Gym Selfies.* 14 08 2015. http://www.braidenchastain.com/why-you-should-be-taking-gym-selfies/.

Coladonato, Valerio. "Power, Gender and the Selfie. The cases of Hillary Clinton, Barack Obama, Pope Francis." *Comunicazioni Sociali. Journal of Media, Performing Arts and Cultural Studies* 3 (2014).

Crowder, Crystal. *9 Surprising Benefits of Post Workout Selfies …* 2014. http://fitness.allwomenstalk.com/surprising-benefits-of-post-workout-selfies.

Curinga, Matthew X. "Critical analysis of interactive media with software affordances." *First Monday* 19, no. 9 (2014).

Demelo, Juno. *Why Taking Gym Selfies Is Actually Good for You.* 22 08 2015. http://www.cosmopolitan.com/health-fitness/a44650/dont-hate-the-healthie/.

Enli, Gunn Sara, and Nancy Thumim. "Socializing and Self-Representation online: Exploring Facebook ." *Observatorio Journal* 6, no. 1 (2012): 087-105 .

Farah, Judy. *The Selfie Craze: Are We Becoming a Narcissistic Nation?* 18 03 2014. http://www.huffingtonpost.com/judy-farah/selfie-craze_b_4983014.html.

Gibson, James. "The Theory of Affordances." In *The People, Place, and Space Reader*, by Jen Jack Gieseking, William Mangold, Cindi Katz, Setha Low and Susan Saegert, 56-60. Routledge, 1979.

Guetterman, Timothy C. "Descriptions of Sampling Practices Within Five Approaches to Qualitative Research in Education and the Health Sciences." *Forum: Qualitative Social Research* 16, no. 2 (2015).

Hakim, Jamie. "'Fit is the new rich': male embodiment in the age of austerity." *Soundings* (Lawrence and Wishart) 61, no. 1 (2015): 84-94.

Hess, Aaron. "The Selfie Assemblage ." *International Journal of Communication* 9 (2015): 1629–1646 .

Hewitt, Marianna. *How I Edit Instagram Pictures | iPhone.* 09 09 2015. https://www.youtube.com/watch?v=gWU7B3K0Koc.

HTC. *Using Auto Selfie.* 2014. http://www.htc.com/us/support/htc-one-m8/howto/554680.html.

IHRSA Trend Report. *Consumer Research.* 2012. http://www.ihrsa.org/consumer-research/.

Instagram. *Celebrating a Community of 400 Million.* 09 2015.
http://blog.instagram.com/post/129662501137/150922-400million.

—. *Thinking Outside the Square: Support for Landscape and Portrait Formats on Instagram.* 08 2015. http://blog.instagram.com/post/127722429412/150827-portrait-and-landscape.

International Data Corporation. *International Data Corporation.* 08 2015.
http://www.idc.com/prodserv/smartphone-os-market-share.jsp.

James, William. *The Principles of Psychology.* New York: Holt, 1890.

Kantar. *Smartphone OS market share.* 02 2015.
http://www.kantarworldpanel.com/global/smartphone-os-market-share/.

Kennemer, Quentyn. *50+ Samsung Galaxy S6 Tips & Tricks.* 065 05 2015.
http://phandroid.com/2015/04/12/50-samsung-galaxy-s6-tips-and-tricks/.

Kiberd, Roisin. *Fitspo: how strong became the new skinny.* 20 04 2015.
http://www.theguardian.com/lifeandstyle/2015/apr/20/fitspo-strong-skinny-social-media-food-abs-better-living-body-fascism.

Kracauer, Siegfried. " The Challenge of Qualitative Content Analysis." *The Public Opinion Quarterly* (Oxford University Press) 16, no. 4 (1952): 631-642.

Lee, Sarah. *Muscle & Fitness.* 2014.
http://www.muscleandfitness.com/workouts/workout-tips/5-tips-get-best-gym-selfie.

Lee, Stephanie. *How Selfies Can Help You Achieve Your Fitness Goals.* 15 07 2015.
http://vitals.lifehacker.com/how-selfies-can-help-you-achieve-your-fitness-goals-1717703419.

Linden Lab. *Second Life.* San Fransisco, 2003.

Lister, Martin, Jon Dovey, Seth Giddings, and Kieran Kelly. *New Media: A Critical Introduction.* 2nd Edition. London: Routledge, 2009.

Losse, Kate. *The Return of the Selfie.* 31 05 2013. http://www.newyorker.com/tech/elements/the-return-of-the-selfie.

McGrenere, Joanna, and Wayne Ho. "Affordances: Clarifying and Evolving a Concept ." *Proceedings of Graphics Interface*, 2000.

Mobile Motion. *Dubsmash.* Retrieved from http://www.dubsmash.com/: Mobile Application Software, 2014.

Moore, Krissy. *The selfie addiction: Top 16 worst types of selfies.* 01 11 2013. http://www.bodyrock.tv/life/selfie-addiction-top-16-worst-types-selfies/.

Neisser, Ulric. *The Perceived Self: Ecological and Interpersonal Sources of Self Knowledge.* Cambridge University Press, 1994.

Nerdeky. *Sony Ericsson Z1010 – World's First Phone with a Front-Facing Camera.* 03 12 2003. http://www.nerdeky.com/history/sony-ericsson-z1010-%E2%80%93-world%E2%80%99s-first-phone-front-facing-camera.

Nicholls, Brett. *Mediation.* 15 02 2007. http://www.blackwellreference.com/subscriber/uid=/tocnode?id=g9781405124331_chunk_g978140512433119_ss1-72.

Norman, Donald A. "Signifiers, not affordances." *Interactions* 15, no. 6 (11 2008): 18-19.

—. *The Design of Everyday Things.* New York: Basic Books, 2013.

—. *The Psychology of Everyday Things.* New York: Basic Books, 1988.

Samsung Mobile. *How to take selfies on the Galaxy S6 edge+.* 17 09 2015. https://www.youtube.com/watch?v=ZRRrwxTBZTY.

Schäfer, Mirko Tobias. *Bastard Culture! How User Participation Transforms Cultural Production.* Amsterdam: Amsterdam University Press, 2011.

Schreier, Margrit. *Qualitative Content Analysis in Practice.* SAGE Publications, 2012.

Schrock, Andrew Richard. "Communicative Affordances of Mobile Media: Portability, Availability, Locatability, and Multimediality ." *International Journal of Communication*, 2015: 1229–1246.

Selfie. *Oxford Dictionary.* 2013.
http://www.oxforddictionaries.com/definition/english/selfie.

Senft, Theresa M., and Nancy K. Baym. "What Does the Selfie Say? Investigating a Global Phenomenon." *International Journal of Communication* 9 (2015): 1588–1606.

Snapchat, Inc. . *Snapchat.* Retrieved from http://www.snapchat.com/: Mobile Application Software, 2011.

Sobot, Rita. *Man taking a selfie is gored to death by bull in front of horrified crowd.* 10 08 2015. http://www.mirror.co.uk/news/world-news/man-taking-selfie-gored-death-6225812.

Sontag, Susan. *On Photography.* Picador, 2001.

Stern, Marc. "The Fitness Movement and the Fitness Center Industry, 1960-2000 ." *Business History Conference*, 2008.

Thumim, Nancy. "'Everyone has a story to tell' Mediation and self-representation in two UK institutions ." *International Journal of Cultural Studies* 12, no. 6 (2009): 617–638.

—. *Self-Representation and Digital Culture.* Houndmills, Hampshire: Palgrave Macmillan, 2015.

Tifentale, Alise. "The Selfie: Making sense of the "Masturbation of Self-Image" and the "Virtual Mini-Me" ." *Selfiecity.net* (The City University of New York), 2014.

Van Dijck, José. "Digital photography: communication, identity, memory ." *Visual communication*, 2008: 57-76.

—. "Facebook and the engineering of connectivity: A multi-layered approach to social media platforms." *Convergence: The International Journal of Research into New Media Technologies*, 2012: 1-15.

Vincent, James. *'Obsessive selfie-taking classified as a mental disorder': What we can learn from a hoax.* 07 04 2014. http://www.independent.co.uk/life-style/gadgets-and-tech/obsessive-selfietaking-classified-as-a-mental-disorder-what-we-can-learn-from-a-hoax-9243442.html.

Volt. *Friskis & Svettis - The Selfie Ads.* 09 2013. http://www.volt.se/case/the-selfie-ads/.

Walker Rettberg, Jill. *Seeing Ourselves Through Technology.* Houndmills , Basingstoke : Palgrave Macmillan , 2014.

Warfield, Katie. *Why I Love Selfies and You Should Too (Damn It).* 26 04 2014. https://www.youtube.com/ watch?v=aOVIJwy3nVo .

Wendt, Brooke. *The Allure of the Selfie: Instagram and the New Self-Portrait .* Amsterdam: Institute of Network Cultures , 2014.

Wright, Jan, Gabrielle O'Flynn, and Doune Macdonald. "Being Fit and Looking Healthy: Young Women's and Men's Constructions of Health and Fitness ." *Sex Roles* , 2006: 707–716 .

Yee, Nick, and Jeremy Bailenson. "The Proteus Effect: The Effect of Transformed Self-Representation on Behavior." *Human Communication Research* 33 (2007): 271–290 .