SOCIO
PLANT

RESEARCH REPORT

Design in Conext II

Pedro Sanchez
S00174063

Abstract

In this report the problem related with social network systems (SNS) addiction will be addressed from a design perspective. Using the connected home as context, developing two personas that match all the criteria collected during the research and paying attention at some trends and concepts as the *hygge* or the *slow-technology*, I will propose a design based on the human faculty of connecting with other living beings. This artefact, instead to generate a need as the SNS do, it will prevent SNS addiction and invite the user to reflect about the way we use this type of technologies.

Introduction

In the changing society we live in, the technology has become an essential part of our lives. Not only this technology develops and changes depending on our new needs and demands, but also our own behaviour and conduct is modified by the effect of technology in a way we can never predict. The aim of this report is to try to form a starting point for the design process. To do that, I will explore the meaning of home, how the changes in society have modelled a new idea of home and also the concept of connected home will be introduced. The problem of the social networks and how they negatively affect young adults and teenagers will be addressed, like how the use of this systems and digital devices can lead to significant problems as addiction. Then I will give some guidelines about the trends and influences that will shape the design process and finally I will try to understand the concept of 'persona' in deign, with the intention forming my own for this project. Finally I'll show a design concept which is an artefact connected to the user's devices, designed to kill a plant if the user keeps on using any kind of SNS.

The Concept of Home

One way to understand the concept of home is to learn about it's origin. The equivalent of *home* in Latin it's *focus*, which was formerly used to refer both to home and fire. The idea of home as fire dates back to the beginning of the occidental culture, when there was a bonfire in every house. The cult to fire was one of the first and most important in the past. The live flame was a sacred presence, and it used to be in the centre or at the entrance of the house, probably as a sign of purity, life and protection. The family used to get together around the fire because of their necessities of light and heat. Instead in the ancient Greece, they used the word *epiestía* to refer to family, which traduced into English would mean *around the fire* (Dechile n.d.). With the change of society the idea of home goes beyond the only necessity of a safe and warm environment.

The idea of home and family was something more solid and inflexible than is nowadays. In the last 50 years we have been witnesses of huge changes in our modern society such as the increase of the single parent families as a consequence of the huge rise of divorces, apparition of couples that prefer cohabitation rather than marriage, same sex couples that can finally marry and adopt children, couples who decide to not have children by choice and not because of a medical condition, and also a change in the concept and behaviour of the woman in society thanks to the promotion of the woman rights, making them become more independent. One of the biggest causes of social change would be the inclusion of the technology in our lives, as the famous sociologist W. F. Ogburn says 'technology changes society by changing our environment to witch we in turn adapt' (Ogburn 1947).

These changes in society have an impact in the way we approach the concept of home. We are slowly moving away of the traditional idea of home as the structure and distribution of the members of a house also changes. Parents divorce and live in separated houses; grandparents tend to live more often by their own (National Institute on Aging 2015) (Figure 1); and young adults tend to leave their parents homes later than before (Figure 2 and 3). In general we see that prevails a common behaviour of segregation as 'the number of people living alone has risen by nearly 10 per cent in the last decade' (The Telegraph 2014).

Human societies, at all times and places, have organized themselves around the will to live with others, not alone. But not any more. During the past half-century, our species has embarked on a remarkable social experiment. For the first time in human history, great numbers of people – at all ages, in all places, of every political persuasion – have begun settling down as singletons. (Klinenberg 2012)

Maybe it's not a coincidence that the percentage of social media users has been hugely increasing with the pass of the time, getting into a point where it's expected to count with 2.95 billon social network users by the year 2020 (Figure 4), from the 7.5 billon people that the planet harbours. In the time of technologies we've found a tool that allows us to keep connected no matter where are or what we do, but what most of us don't know is that it involves some problems.
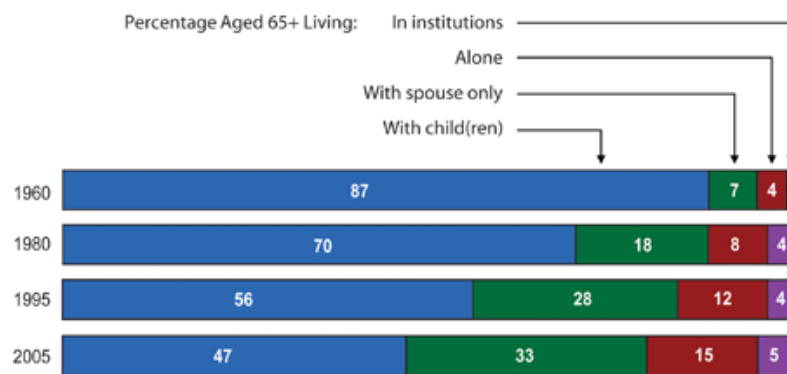
Figure 1. Living Arrangements of People Aged 65 and Over in Japan: 1960 to 2005 (Population Statistics of Japan 2008)
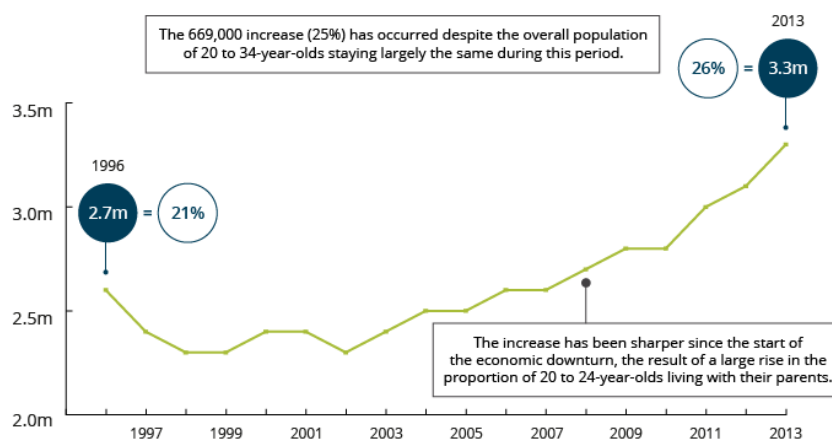
Figure 2. Young adults aged 20-34 living with parents in the UK, 1996-2013 (Office for National Statistics 2014)
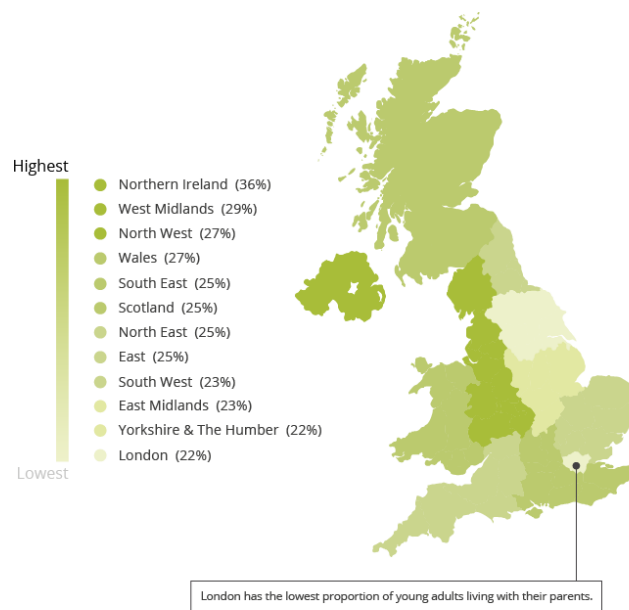
Figure 3. Young adults aged 20-34 living with parents by UK country, 2011-2013 (Office for National Statistics 2014)
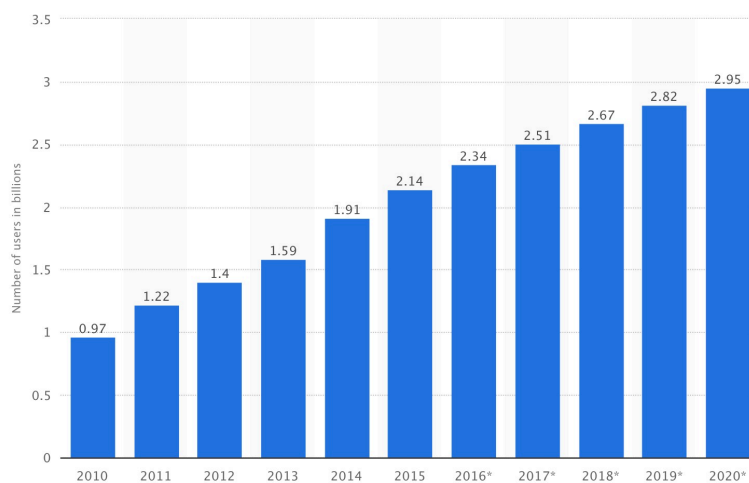

Figure 4. Number of social network users worldwide from 2010 to 2020 (in billions)

On the one hand this new and artificial solution to our need of connection, actually makes us lonelier (Hosie 2017). A recent study about the impact of social media among young adults of U.S. suggests that if you spend more than two hours daily on any social network, your probabilities of feeling lonely are twice as high (Primack *et al* 2017). In this way, social media use 'continues to significantly predict declines in life satisfaction

5

over time' (Kross *et al* 2013). On the other hand, they are a great source of addiction, as 'a study from Harvard University showed that self-disclosure online fires up a part of the brain that also lights up when taking an addictive substance, like cocaine' (Keep it Usable 2016). This addiction is can be a huge problem, as it takes out of the real world and can affect our real relationships (Seidman 2015).

With all this information and knowing the problem that excessive use of social networks carries with it, the first step in forming a design proposal is taken. From this point, and with a direction to start our research I will try to understand a little bit more about the context where this project has to be developed: the connected home.

Connected Technology

As science develops, the inclusion of technology is becoming more present and it changes every aspect of our lives (Knight Foundation n.d.). It has expanded life spans, improved communication, simplified manufacturing and improved transportation among others (Boutin 2013) (Dickey 2013). The *Internet of Things* (*IoT*) it's supposing a huge revolution, but we are still at the beginning of its journey. It's true that some objects already use the IoT to be connected (thermostat, alarm system and smoke detector for example), but the possibilities for all aspects of technology are huge and unexplored.

> Soon every device you own – and nearly every object you can imagine – will be connected to the Internet. Whether it's through your phone, wearable tech or everyday household objects, the Internet of Things (IoT) will connect us in ways we can't even imagine yet. (Gasiorowski-Denis 2016)

In this case, before starting our own project, it would be a good idea to find out what types of connected home products already exist to the field of study: people living alone and the social connection need. For those who live alone, there are a bunch of products that can simplify their lives of help them in specific ways. One example would be the *Belkin WeMo Light Switch* (Figure 5), a smart light switch that is connected with an app and allows the user to switch on and off the lights remotely. The objective is not only simplify the user's life while at home, but also to create the illusion that someone is

home when you arrive, or make it seem that your home is occupied while you are away (Chianis 2016). The next product is designed for one specific group of people leaving alone: the elderly. This product (Figure 6) developed by *Fujitsu* implements a technology that uses sound to monitor the elderly. It can detect and recognize different sounds such as breath, a falling objet or a collapsing human. It also recognizes the sounds of the user daily routine and detects unusual behaviours. When any sound abnormality emerges or when the temperature changes (for a probably unknown fire), the system alerts user's relatives, emergencies or security (Demetriou 2015). Finally, in respect of the area I wanted to explore, after a lot of research it was impossible to find any smart product that appeals to the need of social connection. Therefore, it is possible to say that to this day the only technological solution for the human need of connection is the use of social media.

Figure 5. *Belkin WeMo Light Switch* (WeMo n.d.)

Figure 6. Sound Monitoring System (Goji 2014)

Rationale for Design

At this point I know the area where I am going to approach my design, and my aim as designer: create a design solution to solve the negative influence of excessive use of social media networks on young people. All of this having in mind that the solution must match with the context of connected home. But this is not enough to form a solid base for the design proposal. This is why it's important to research and find some influences, trends or movements to allow me focus the vision towards the best solution possible. To do this I will discuss different design trends that are expected to appear this year, and also I will talk about two design movements or visions that are closely related with the path I want to follow.

On the one hand, design in this year will focus on trying to generate a more mindful living by recreating the experience of nature inside of our homes.

> "The rising technology-driven Generation Z are awash with images everyday, and produce their own onto an array of social media platforms. With the danger of this environment becoming easily artificial, 2017 will see a return to the natural.

Society is craving raw emotion, unfiltered imperfection, individuality and non-manufactured resources." "It has been proven in numerous studies that our health benefits from exposure to nature. 2017 will see a rise in manipulating the natural world to bring it into the urban home" (Harris 2017)

On the other hand, the Danish term *hygge* is gaining popularity because of what it means, and because all the benefits that it can bring us. "In essence, hygge means creating a warm atmosphere and enjoying the good things in life with good people. The warm glow of candlelight is hygge. Friends and family – that's *hygge* too" (VisitDenmark nd). This philosophy of living tries to make the mundane something joyful and beautiful (Altman 2016).

I also should talk about the movement called *Slow Technology*. The authors of "*Slow Technology – Designing for Reflection*" define it as "a design agenda for technology aimed at reflection and moments of mental rest rather than efficiency in performance" (Hallnäs and Redström 2001). This design philosophy also tries to change the paradigm of the every-day objects we interact with, bringing them into a different level of meaning by using the same mind-set we use when looking at pieces of art. By bringing this objects to the art world we stop looking this items as we normally would, and start conceiving them as "unity of interesting expressions of which many have their roots in the reflective environments of artistic work" (Hallnäs and Redström 2001). In this way with the *slow-technology* vision the design is understood in a completely different way by considering the artefacts not just as a tool to solve a problem, but also as reality that encourages an act of reflection. With the *slow-technology* vision we stop designing just for use, but also for presence.

The User (Persona Modelling)

To be as much accurate as possible when developing a product or service idea, we should always have in mind the future user. This abstract idea of the user represents the target group, and it is an idealization of the person who because of his age, habits, social condition or other ethnographic factors will be more likely to use the product or service that is aimed to develop. This idealization of the ethnographic information is what we call persona. Persona models help by giving the designer an image of the possible user and by giving the designer some directions before starting designing. "Personas aid designers to create different designs for different kinds of people and to design for a specific somebody, rather than a generic everybody" (Shlomo Goltz 2014).

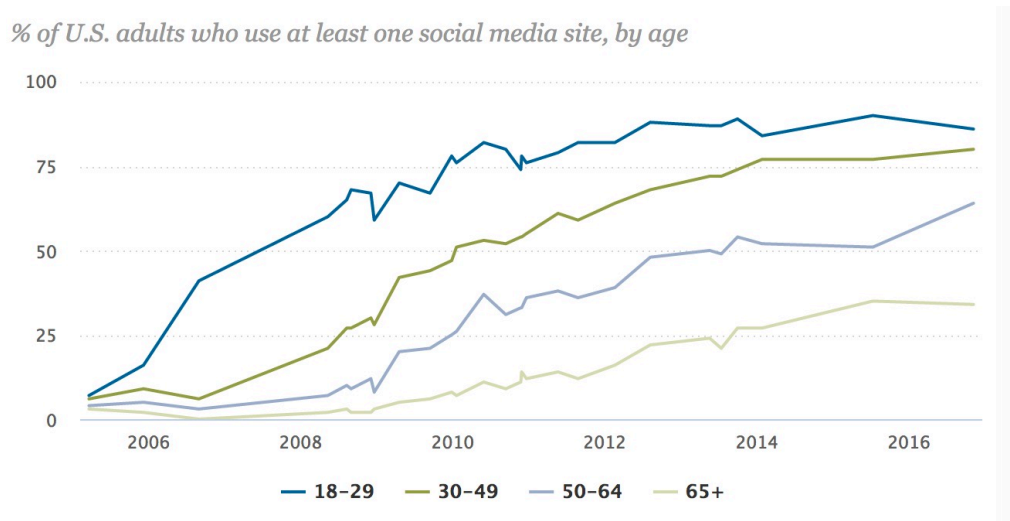*% of U.S. adults who use at least one social media site, by age*

Figure 7. Percentage of U.S. adults who use at least one social media site, by age (Pew Research Centre 2017)

Doing some research I started discovering what groups of people are the ones who use social media more often. Statistics show that that the people aged between 18 and 29 years old, are the group who use most social media (Figure 7). The problem comes when speaking about kids using social media, as "52 per cent of eight to 16-year-olds admitting they had ignored the official age limit" on a social network system and 'more than half of children have used an online social network by the age of 10, according to a study' (Daily Mail 2017). On the other hand when studying the use of social media among kids, we can also see that 'three-quarters of children aged between 10 and 12 have social media accounts despite being below the age limit' and 'for 13 to 18-year-

10

olds, 96 per cent used social media networks' (Jamieson 2016). Therefore the range of age of the potential users expands including people under age, even though there are age restrictions in social media networks. For this reason, it is possible to set the average user as an individual between 16 and 28 years old as average.

To have a better idea of the different behaviours of the user when using social media, I decided to create a survey where the user could give different information about their own experience using devices and interacting with social media. They were asked about type of devices do they usually use, how much time they spend using social media and what do they do when using social media. Also I tried to figure out if they could have a social media addiction. To do this I did some research about the symptoms of social media addiction and implemented some control questions that could alert us whether they are addicted or not (Figure 8). Moreover, I also included some questions that would appeal to the sense of frustration that the users feel as a response to all the time they waste doing nothing and social media (Figure 9). Finally, the form would also work for helping to determine some other ethnographic details as sex and age of the persona. The form was answered by a total of 91 social media users, and helped us clarify some aspects and behaviours related to how they use and how they experience social media.

From 1 to 5, specify how much you feel identified with the following sentences.

(1 = Not identified at all ; 5 = Totally identified)

	1	2	3	4	5
Before starting working I usually check out social media	○	○	○	○	◉
The first thing I do after waking up, is to check out social media on my smartphone (or other device)	○	○	○	○	◉
Anything is a good excuse to check out Facebook (or other social media)	○	○	○	◉	○
When I'm bored I check out social media without even thinking about it	○	○	○	○	◉
Sometimes I pick up my phone for a specific reason, but I end checking out social media instead	○	○	○	○	◉

Figure 8. User form (Sanchez 2017)

	1	2	3	4	5
I feel like I spend too much time doing nothing on the Internet	○	○	○	○	◉
When using a computer, I think I usually use the time available to be productive on my work	○	◉	○	○	○
I could stop using social media right now	○	○	○	○	◉
I wish I could be capable of using less social media on a daily basis	○	○	◉	○	○
I would like to use less devices (phone, computer, ...) as I feel they are a big distraction	○	○	◉	○	○

Figure 9. User form (Sanchez 2017)
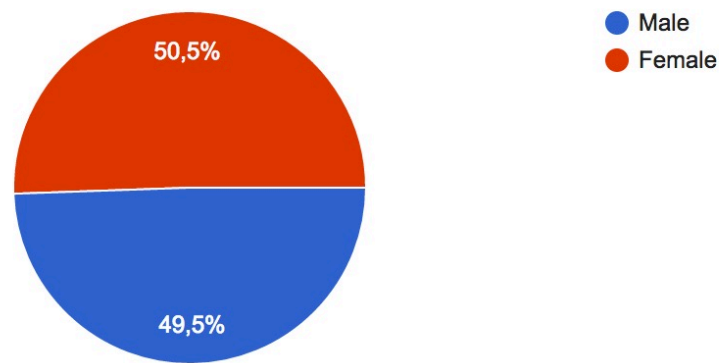
Gender (91 respuestas)

Figure 10. Sex of users surveyed (Sanchez 2017)

When using a device, what do you generally spend more time doing? Order from 1 to 3 (1 = the one you spend more time with)
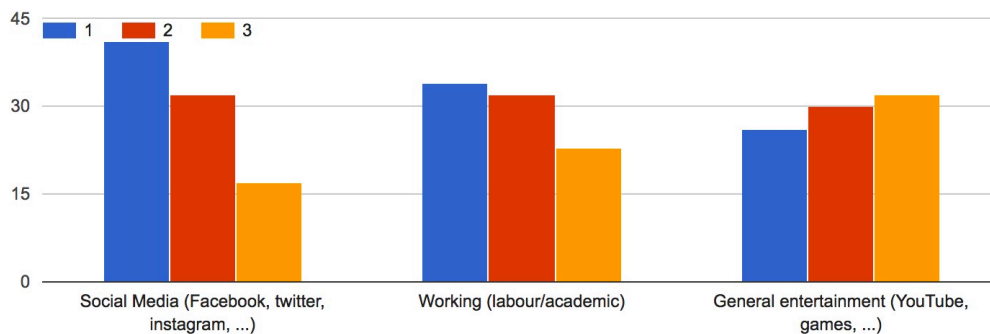
Figure 11. User form: activities users spend more time doing while using devices. (Sanchez 2017)

On the one hand, we can see that almost the same amount of men and women answered the survey (Figure 10). When asked about what device do they use more the most common answer was the smartphone (63%) and the second the computer (48%). When using devices users surveyed about what is the activity they spend more time with, they answer in first place using social media and second working (Figure 11). When I asked about what do they usually do when using social media, most of them answered that they use it firstly for reading others posts (47%), and then for maintaining relationships (35%) and sharing their own stories (23%) (Figure 12).

What do you usually do when using social media?

I usually use social media for...
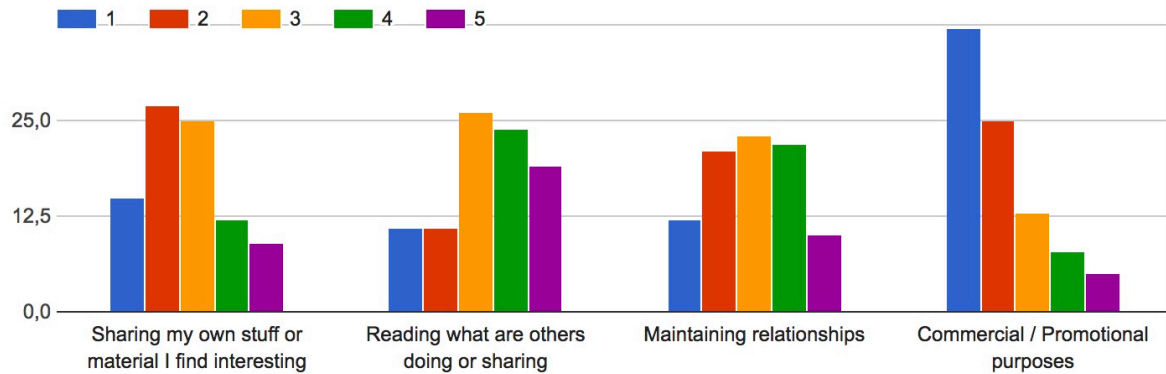
Figure 12. User form: what users do when using social media. Ordered from 1 to 5 (1 if they feel totally represented or 5 if they do not at all) (Sanchez 2017)

When speaking about the questions related about social media addiction (Figure 13) 55,5% (answers rated from 4 to 5) of the people showed symptoms of dependence: most of them (72%) showed that they usually check out social media instinctively (without thinking about it) when feeling bored, and that they usually check out social media before starting any work (62%).

Before starting working I usually check out social media [null]
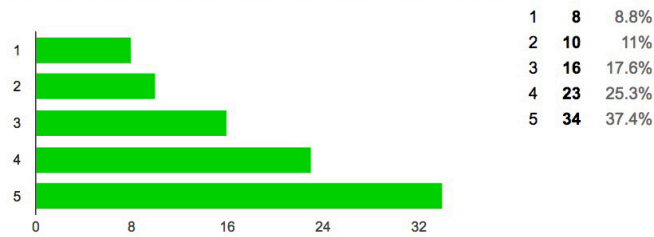
1	**8**	8.8%
2	**10**	11%
3	**16**	17.6%
4	**23**	25.3%
5	**34**	37.4%

The first thing I do after waking up, is to check out social media on my smartphone (or other device) [null]

1	**12**	13.2%
2	**15**	16.5%
3	**14**	15.4%
4	**24**	26.4%
5	**26**	28.6%

Anything is a good excuse to check out Facebook (or other social media) [null]

1	**17**	18.7%
2	**15**	16.5%
3	**30**	33%
4	**17**	18.7%
5	**12**	13.2%

When I'm bored I check out social media without even thinking about it [null]

1	**5**	5.5%
2	**10**	11%
3	**10**	11%
4	**23**	25.3%
5	**43**	47.3%
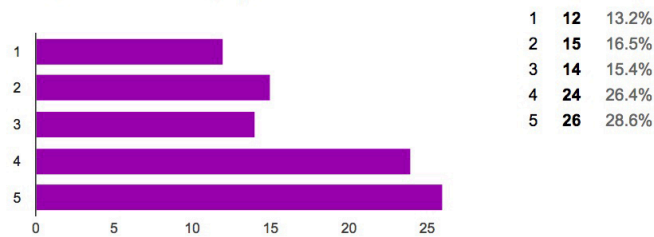
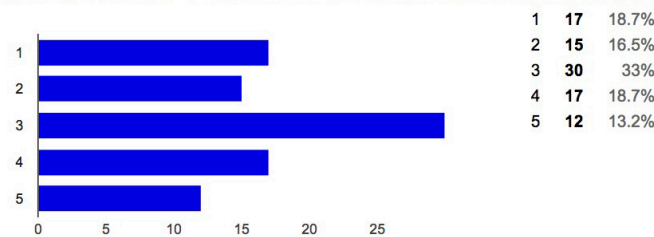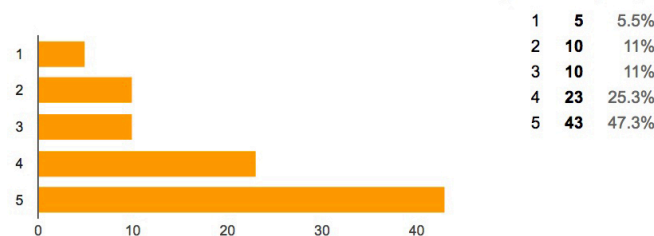Figure 13. User form: seeking for dependence symptoms. Ordered from 1 to 5 (1 if they feel totally represented or 5 if they do not at all) (Sanchez 2017)

In the last part of the survey (Figure 14), I explored how the users felt about their way of using social media and I started looking for any clue that could tell us whether if the user would probably be receptive to a design proposal that could change their relation with social media. Here I found out that most of the people expressed an inner desire of being able of using less social media and devices in general: 54% (rates from 4 to 5) expressed that they feel like they waste too much time on internet, and 45% wished they could be capable of using less social media daily.

15

Anything is a good excuse to check out Facebook (or other social media) [null]

1	17	18.7%
2	15	16.5%
3	30	33%
4	17	18.7%
5	12	13.2%

When I'm bored I check out social media without even thinking about it [null]

1	5	5.5%
2	10	11%
3	10	11%
4	23	25.3%
5	43	47.3%

Sometimes I pick up my phone for a specific reason, but I end checking out social media instead [null]

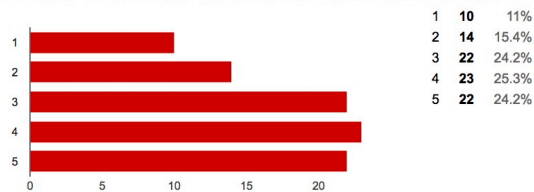|		
1	10	11%
2	14	15.4%
3	22	24.2%
4	23	25.3%
5	22	24.2%

I feel like I spend too much time doing nothing on the Internet [null]

1	10	11%
2	13	14.3%
3	18	19.8%
4	21	23.1%
5	29	31.9%
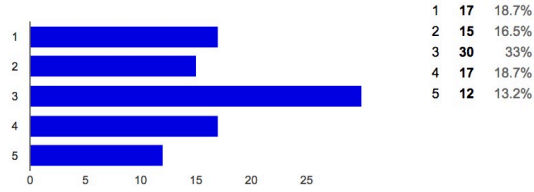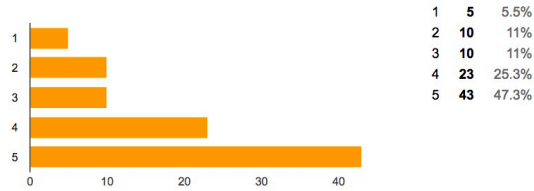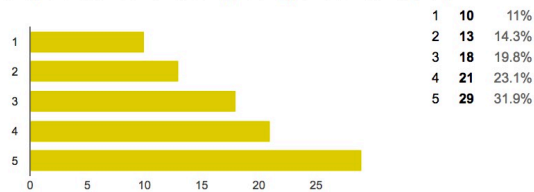
Figure 14. User form: What does the users feel about the way they use social media networks. Ordered from 1 to 5. (Sanchez 2017)

At this point I have extracted different information about the users who are more likely to use my future product. To have a better idea of this future user, and not complicate the process by having to look at all the information researched when try to propose design solutions I will create my own personas for this project. I will create two individuals based on the info about gender, occupation, and most important: the problematic they experience related to excessive use of social networks and devices.

PERSONA A

Name:	Hubert Cumberdale
Age:	18
Ocupation:	High school student

Life situation

Bryan is an high school student coursing the last year. He always had a great social life and went to every party possible during his high school experience.

He is thinking about entering a College in a foreign country next year and beacuse of that he needs to socre the higest mark possible this year.

Because of his hectic social life during the last years, he is in high risk of developing addiction to his smartphone, specially related to the use of social media.

He wastes too much time during the day checking new notifications in Facebook and talking with friends in WhatsApp. Because of that his performance at high school is not going as well as he planned it to be.

Goals

- Score a high mark this las year of highschool
- Improve his performance while studying
- Study a Degree in a different country

Likes

- New technologies, he always has the newest Iphone
- Cycling and running in the forest

PERSONA B

Name: Marjory Stewart-Baxter

Age: 25

Ocupation: Doing an intership as a designer

Life situation

Marjory just graduated from a Product Design Degree and she is doing an intership in a renowed design studio from Amsterdam.

She has always a lot of work to do. In the studio they do some experimental studies, build prototypes and discuss about different design proposals. When she is back home, she still has work to do: doing research about the markets and target groups and sometimes adding news to the studio webpage.

When she arrives at home she is exhausted and all the work has to be done with the computer. From time to time she gets in Facebook, Twitter and YouTube as a way of resting from the work she is doing. The problem is that every time she gets on this platforms, she spends much more time than spected.

Because of her distractions she is not doing all the work that is spected from her. She is really worried because she really likes the studio and wants to give her best to create a good impression, but she gets distracted very easely and she doesn't know how to change this.

Goals

- She wants to officialy work in the studio where she is doing the internship
- To be more productive and not to be distracted while working at home

Likes

- Design in general
- The sensation of cosiness and a warm ambient at home
- Watching films and series
- Travelling and discovery new places.

Both personas are really relevant to the project in different ways. Their history, troubles and desires make us think about the problem we are referring in a more practical way. In the case of Hubert, we see a case of a teenager who is in high risk of devolving an addiction. This youngster has been using too much social media networks to keep his social life in the best position possible. He needs to do his best to score the best possible mark for college, but he is already noticing problems related with efficiency while studying. In the case of Marjory, the problem is related to the use of SNS as a way of disconnecting from the work, a way of taking a break. The addicting part of those platforms, make her to completely lost the sense of responsibility, transforming a small break in a long period of procrastinating the work. From this two scenarios, I as a designer can start to think about the situations, and start dragging some hints that could direct me to the best design solution.

The Design Concept

My concept is formed by the idea of using the human ability of connecting with other living beings. The product presents 4 essential parts: a recipient containing a special liquid, a heater in the base of the recipient, a pot for a plant and a crystal straw that works as a medium for the liquid to arrive from the recipient to the pot. The product is connected to the user's devices through Internet. Those devices would have software installed that detects when the user is using social media. When this happens the heater turns on, warming slowly the liquid. The liquid is composed by water, vinegar and salt: a mix that has quality of killing plants. By the increase of heat the liquid expands, making his away through the crystal straw. As the liquid makes his own up to the plant, the danger of killing the plant is also higher.

The only solution to make the liquid on the straw decrease is by stop using social media. Therefore the user would try to stop using social media not because of him, but because of the plant. In this way the product addresses different parts of the research from the trends to the personas. Bringing the nature to the house, using the product as an instrument that invites to reflect about a certain reality, it's inspired in the cosines of

the *hygge* world, and most important: aimed to prevent addiction to social networks and digital devices, and to help people to deal with it and achieve all their goals.

Figure 15. Product concept (Sanchez 2017)

FIGURES

1. Population Statistics of Japan (2008) *Living Arrangements of People Aged 65 and Over in Japan: 1960 to 2005* [online], available: https://www.nia.nih.gov/research/publication/global-health-and-aging/changing-role-family [accessed 11 Feb 2017]

2. Office for National Statistics (2014) *Young adults aged 20-34 living with parents in the UK, 1996-2013* [online], available: http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/family-demography/young-adults-living-with-parents/2013/sty-young-adults.html [accessed 12 Feb 2017]

3. Office for National Statistics (2014) *Young adults aged 20-34 living with parents by UK country, 2011-2013* [online], available: http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/family-demography/young-adults-living-with-parents/2013/sty-young-adults.html [accessed 12 Feb 2017]

4. Statista (2014) *Number of social network users worldwide from 2010 to 2020* (in billions) [online], available: https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/ [accessed 27 Mar 2017]

5. WeMo (n.d.) *Belkin WeMo Light Switch* [online], available: https://medium.com/@maxbraun/my-bathroom-mirror-is-smarter-than-yours-94b21c6671ba#.phqag81mz [accessed 13 Mar 2017]

6. Goji (2014) *Sound Monitoring System* [online], available: http://www.telegraph.co.uk/news/worldnews/asia/japan/11601602/Elderly-living-alone-can-be-monitored-by-new-sound-system-technology.html [accessed 13 Mar 2017]

7. Pew Research Centre (2017) *Percentage of U.S. adults who use at least one social media site, by age* [online], available: https://www.statista.com/statistics/246230/share-of-us-internet-users-who-use-selected-social-networks/ [accessed 12 Mar 2017]

8. Pedro Sanchez (2017) *User form* [Google form]

9. Pedro Sanchez (2017) *User form* [Google form]

10. Pedro Sanchez (2017) Sex of users surveyed [Google form]

11. Pedro Sanchez (2017) User form: activities users spend more time doing while using devices [Google form]

12. Pedro Sanchez (2017) *User form: what users do when using social media. Ordered from 1 to 5* [Google form]

13. Pedro Sanchez (2017) *User form: seeking for dependence symptoms. Ordered from 1 to 5* [Google form]

14. Pedro Sanchez (2017) *User form: What does the users feel about the way they use social media networks. Ordered from 1 to 5* [Google form]

15. Pedro Sanchez (2017) *Product concept* [digital sketch]

REFERENCES

Anna, A. (2016) 'The year of hygge, the Danish obsession with getting cozy', *The New Yorker,* 18 Dec, available: http://www.newyorker.com/culture/culture-desk/the-year-of-hygge-the-danish-obsession-with-getting-cozy [accessed 24 Apr 2017]

Boutin, P. (2013) 'A technological revolution', *NBC News*, n.d., available: http://www.nbcnews.com/id/6186351/ns/technology_and_science/t/technological-revolution/#.WKGm7xKLRE4 [accessed 13 Feb 2017]

Brown, L. (2012) 'New Harvard Study Shows Why Social Media Is So Addictive for Many', *WTWH Media,* 11 May, available: http://marketing.wtwhmedia.com/new-harvard-study-shows-why-social-media-is-so-addictive-for-many/ [accessed 12 Mar 2017]

Daily Mail Reporter (2014) 'More than half of children use social media by the age of 10: Facebook is most popular site that youngsters join', *Dailymail,* available: http://www.dailymail.co.uk/news/article-2552658/More-half-children-use-social-media-age-10-Facebook-popular-site-youngsters-join.html [accessed 13 Mar 2017]

Dechile (n.d.) *Etymological meaning of Home* [online], available: http://etimologias.dechile.net/?hogar [accessed 01 Feb 2017]

Dickey, M. (2013) '15 Ways Technology Is Reinventing Society', *Business Insider*, Apr 28, available: http://www.businessinsider.com/15-ways-tech-is-reinventing-society-2013-4?op=1&IR=T/#lf-driving-cars-are-changing-how-we-get-around-1 [accessed 13 Feb 2017]

Engelberg, S. (2015) 'The Loneliness of Social Media: Part One', *Psychology Today,* 21 Jul, available: https://www.psychologytoday.com/blog/the-practical-professor/201507/the-loneliness-social-media-part-one [accessed 12 Mar 2017]

Fujitsu (2017), 'IoT Helps the Elderly Live a Safe and Worry-free Life While Respecting Their Privacy', *Fujitsu Journal*, 17 Jan, available: http://journal.jp.fujitsu.com/en/2017/01/17/01/ [accessed 13 Mar 2017]

Gasiorowski-Denis, E. (2016) 'How the Internet of Things will change our lives', *International Organization for Standardization*, Sep 05, available: http://www.iso.org/iso/news.htm?refid=Ref2112 [accessed 13 Feb 2017]

Goltz, S. (2014) 'A Closer Look At Personas: What They Are And How They Work', *Smashing Magazine,* 6 Aug, available: https://www.smashingmagazine.com/2014/08/a-closer-look-at-personas-part-1/ [accessed 18 Apr 2017]

Hallnäs, L., Redström, J. (2001). Slow technology - designing for reflection, *Personal and ubiquitous computing*, 5(3), 201-212.

Harris, M. (2017) 'Visual Trends 2017: These are this year's must-know colour, design, branding and photography trends', *DigitalArts,* 3 Jan, available: http://www.digitalartsonline.co.uk/features/graphic-design/visual-trends-2017-these-are-this-years-must-know-colour-design-branding-photography-trends/ [accessed 16 Feb 2017]

Hosie, R. (2017) 'The longer you spend on social networks, the lonelier you're likely to be', *Independent*, 7 Mar, available: http://www.independent.co.uk/life-style/social-

media-high-usage-more-isolated-lonely-people-study-university-pittsburgh-a7614226.html [accessed 12 Mar 2017]

Jamieson, S. (2016) 'Children ignore age limits by opening social media accounts', *The Telegraph,* Feb 9, available:
http://www.telegraph.co.uk/news/health/children/12147629/Children-ignore-age-limits-by-opening-social-media-accounts.html [accessed 13 Mar 2017]

Keep it Usable (2016) *Psychology of Social Networks: What makes us addicted?,* available: http://www.keepitusable.com/blog/?p=2568 [accessed 12 Mar 2017]

Klinenberg, E. (2012) 'I want to be alone: the rise and rise of solo living', *The Guardian,* Mar 30, available: https://www.theguardian.com/lifeandstyle/2012/mar/30/the-rise-of-solo-living [accessed 12 Feb 2017]

Knight Foundation (n.d.) *The Role of Technology* [online], available: http://www.knightfoundation.org/digitalcitizenship/technology/ [accessed 13 Feb 2017]

Kross, E., Verduyn, P., Demirlap, E., Park, J., Lee, D., Lin, N., Shablack, H., Jonides, J., Ybarra, O. (2013) 'Facebook Use Predicts Declines in Subjective Well-Being in Young Adults', *PLoS ONE*, 8(8), available:
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0069841#s3 [accessed 12 Mar 2017]

Malnick, E. (2014) '10 per cent rise in number of people living alone', *The Telegraph,* Dec 17, available: http://www.telegraph.co.uk/news/health/elder/11299527/10-per-cent-rise-in-number-of-people-living-alone.html [accessed 12 Feb 2017]

National Institute on Aging (2015) 'Global Health and Aging', *Changing Role of the Family* [online], available: https://www.nia.nih.gov/research/publication/global-health-and-aging/changing-role-family [accessed 10 Feb 2017]

Ogburn, W. (1947), 'How Technology Changes Society', *The Annals of the American Academy of Political and Social Science*, Vol. 249, P. 81.

Primark, B., Shensa, A., Sidani, J., Whaite, E., Lin, L., Rosen, D., Colditz, Radovic, A., Miller, E. (2017) 'Social Media Use and Perceived Social Isolation Among Young Adults in the U.S.', *American Journal of Preventive Medicine*, 6 Mar, available:
http://www.ajpmonline.org/article/S0749-3797(17)30016-8/fulltext [accessed 25 Apr 2017]

Seidman, G. (2015) 'How Facebook Affects Our Relationships', *Psychology Today,* 28 May, available: *https*://www.psychologytoday.com/blog/close-encounters/201505/how-facebook-affects-our-relationships [accessed 13 Mar 2017]

Velasco, I. (2016) 'Desconectados: la nueva tribu urbana que abandona internet para abrazar la vida real', *El Mundo*, Oct 29, available:
http://www.elmundo.es/sociedad/2016/10/29/58138ac5e5fdea3f578b4583.html [accessed 13 Feb 2017]

VisitDenmark (nd) 'The art of Danish hygge' [online], available: http://www.visitdenmark.com/hygge [accessed 24 Apr 2017]

BIBLIPGRAPHY

Anna, A. (2016) 'The year of hygge, the Danish obsession with getting cozy', *The New Yorker,* 18 Dec, available: http://www.newyorker.com/culture/culture-desk/the-year-of-hygge-the-danish-obsession-with-getting-cozy [accessed 24 Apr 2017]

Bennett, S. (2014) 'Social Media Addiction: Statistics & Trends', *Adweek,* available: http://www.adweek.com/digital/social-media-addiction-stats/ [accessible 12 Mar 2017]

Bonanno, S. (2016) 'Social Media's Impact on Relationships', *PsychCentral,* available: https://psychcentral.com/lib/social-medias-impact-on-relationships/ [accessed 13 Mar 2017]

Boutin, P. (2013) 'A technological revolution', NBC News, n.d., available: http://www.nbcnews.com/id/6186351/ns/technology_and_science/t/technological-revolution/#.WKGm7xKLRE4 [accessed 13 Feb 2017]

Brown, L. (2012) 'New Harvard Study Shows Why Social Media Is So Addictive for Many', *WTWH Media,* 11 May, available: http://marketing.wtwhmedia.com/new-harvard-study-shows-why-social-media-is-so-addictive-for-many/ [accessed 12 Mar 2017]

Carvel, J. (2009) 'Young adults delay leaving family home', *The Guardian*, Apr 15, available: https://www.theguardian.com/society/2009/apr/15/twentysomethings-staying-at-home-social-trends [accessible 13 Feb 2017]

Castelloe, M. (2011) 'Changes in the American Family', *Psychology Today*, Apr 27, available: https://www.psychologytoday.com/blog/the-me-in-we/201104/changes-in-the-american-family [accessed 10 Feb 2017]

Chianis, A. (2016) '5 Smart Devices Perfect for People Who Live Alone', *Safewise,* 18 May, available: http://www.safewise.com/blog/smart-devices-perfect-for-people-who-live-alone/ [accessed 13 Mar 2017]

Daily Mail Reporter (2014) 'More than half of children use social media by the age of 10: Facebook is most popular site that youngsters join', *Dailymail,* available: http://www.dailymail.co.uk/news/article-2552658/More-half-children-use-social-media-age-10-Facebook-popular-site-youngsters-join.html [accessed 13 Mar 2017]

Dechile (n.d.) *Etymological meaning of Home* [online], available: http://etimologias.dechile.net/?hogar [accessed 01 Feb 2017]

Demetriou, D. (2015) 'Elderly living alone can be monitored by new sound system technology', *The Telegraph,* available: http://www.telegraph.co.uk/news/worldnews/asia/japan/11601602/Elderly-living-alone-can-be-monitored-by-new-sound-system-technology.html [accessed 13 Mar 2017]

Dickey, M. (2013) '15 Ways Technology Is Reinventing Society', *Business Insider*, Apr 28, available: http://www.businessinsider.com/15-ways-tech-is-reinventing-society-2013-4?op=1&IR=T/#lf-driving-cars-are-changing-how-we-get-around-1 [accessed 13 Feb 2017]

Gasiorowski-Denis, E. (2016) 'How the Internet of Things will change our lives', *International Organization for Standardization*, Sep 05, available: http://www.iso.org/iso/news.htm?refid=Ref2112 [accessed 13 Feb 2017]

Goltz, S. (2014) 'A Closer Look At Personas: What They Are And How They Work', *Smashing Magazine,* 6 Aug, available:
https://www.smashingmagazine.com/2014/08/a-closer-look-at-personas-part-1/

Hallnäs, L., Redström, J. (2001). Slow technology - designing for reflection, *Personal and ubiquitous computing*, 5(3), 201-212.

Harris, M. (2017) 'Visual Trends 2017: These are this year's must-know colour, design, branding and photography trends', *DigitalArts,* 3 Jan, available:
http://www.digitalartsonline.co.uk/features/graphic-design/visual-trends-2017-these-are-this-years-must-know-colour-design-branding-photography-trends/ [accessed 16 Feb 2017]

Henderson, T. (2014) 'Growing Number of People Living Solo Can Pose Challenges', *Stateline,* Sep 11, available: http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2014/09/11/growing-number-of-people-living-solo-can-pose-challenges [accessed 11 Feb 2017]

Holmes, L. (2014) 'Sneaky Ways Technology Is Messing With Your Body And Mind', *Huffpost,* 12 May, available: http://www.huffingtonpost.com/2014/12/05/health-effects-of-technol_n_6263120.html [accessed 2014]

Hosie, R. (2017) 'The longer you spend on social networks, the lonelier you're likely to be', *Independient*, 7 Mar, available: http://www.independent.co.uk/life-style/social-media-high-usage-more-isolated-lonely-people-study-university-pittsburgh-a7614226.html [accessed 12 Mar 2017]

Hu, E. (2013) 'Facebook Makes Us Sadder And Less Satisfied, Study Finds', *National Public Radio,* available:
http://www.npr.org/sections/alltechconsidered/2013/08/19/213568763/researchers-facebook-makes-us-sadder-and-less-satisfied [accessed 12 Mar 2017]

Jamieson, S. (2016) 'Children ignore age limits by opening social media accounts', *The Telegraph,* Feb 9, available:
http://www.telegraph.co.uk/news/health/children/12147629/Children-ignore-age-limits-by-opening-social-media-accounts.html [accessed 13 Mar 2017]

Keep it Usable (2016) *Psychology of Social Networks: What makes us addicted?,* available: http://www.keepitusable.com/blog/?p=2568 [accessed 12 Mar 2017]

Klinenberg, E. (2012) 'I want to be alone: the rise and rise of solo living', *The Guardian,* Mar 30, available: https://www.theguardian.com/lifeandstyle/2012/mar/30/the-rise-of-solo-living [accessed 12 Feb 2017]

Knight Foundation (n.d.) *The Role of Technology* [online], available:
http://www.knightfoundation.org/digitalcitizenship/technology/ [accessed 13 Feb 2017]

Kross, E., Verduyn, P., Demirlap, E., Park, J., Lee, D., Lin, N., Shablack, H., Jonides, J., Ybarra, O. (2013) 'Facebook Use Predicts Declines in Subjective Well-Being in Young Adults', *PLoS ONE*, 8(8), available:
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0069841#s3 [accessed 12 Mar 2017]

Lees-Maffei, G. (2012). 'Reflections on Design Activism and Social Change', *Design Issues*, 28(2), 90-91.

Malnick, E. (2014) '10 per cent rise in number of people living alone', *The Telegraph,* Dec 17, available: http://www.telegraph.co.uk/news/health/elder/11299527/10-per-cent-rise-in-number-of-people-living-alone.html [accessed 12 Feb 2017]

National Institute on Aging (2015) 'Global Health and Aging', *Changing Role of the Family* [online], available: https://www.nia.nih.gov/research/publication/global-health-and-aging/changing-role-family [accessed 10 Feb 2017]

Nielsen (2014) 'Millennials: technology = social connection' [online], available: http://www.nielsen.com/us/en/insights/news/2014/millennials-technology-social-connection.html [accessed 15 Feb 2017]

Office for National Statistics (2014), *Large increase in 20 to 34-year-olds living with parents since 1996* [online], available: http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/family-demography/young-adults-living-with-parents/2013/sty-young-adults.html [accessed 13 Feb 2017]

Ogburn, W. (1947), 'How Technology Changes Society', *The Annals of the American Academy of Political and Social Science*, Vol. 249, 81.

Ramey, K. (2012), '10 uses of technology in our daily life', *Uses of Technology*, Nov 25, available: http://www.useoftechnology.com/technology-today-tomorrow/ [accessed 13 Feb 2017]

Seidman, G. (2015) 'How Facebook Affects Our Relationships', *Psychology Today,* 28 May, available: *https*://www.psychologytoday.com/blog/close-encounters/201505/how-facebook-affects-our-relationships [accessed 13 Mar 2017]

Sociology Guide (n.d.) *Factors of Change* [online], available: *http*://www.sociologyguide.com/social-change/factors-of-change.php [accessed 11 Feb 2017]

Texas State University (2002) *The Changing Role of Women* [online], available: http://www.txstate.edu/news/news_releases/news_archive/2002/10/roleofwomen102102.html [accessed 11 Feb 2017]

Velasco, I. (2016) 'Desconectados: la nueva tribu urbana que abandona internet para abrazar la vida real', *El Mundo*, Oct 29, available: http://www.elmundo.es/sociedad/2016/10/29/58138ac5e5fdea3f578b4583.html [accessed 13 Feb 2017]

VisitDenmark (nd) 'The art of Danish hygge' [online], available: http://www.visitdenmark.com/hygge [accessed 24 Apr 2017]