HOW THE COVID-19 PANDEMIC INFLUENCE PERCEPTIONS OF ENVIRONMENTAL TOPICS IN THE NETHERLANDS

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ABSTRACT

At the turn of the year 2019 to 2020, the pandemic covid-19 announced its arrival, with unprecedented global impacts. Global warming can, according to climate science, result in more frequent and comprehensive global crises similar to covid-19. A frequently discussed remedy for global warming is to restructure society in a way that fits the principles of sustainable development. It is advocated that such a restructuring would require a paradigm shift, away from the Dominant Social Western Industrialised Paradigm (DSP), which according to Thomas Kuhn's rationale of scientific revolutions, occurs as a result of a scientific crisis, and covid-19 could be a such a crisis. Therefore, this thesis seeks to explore how the direct and indirect impacts of covid-19 influence the perceptions of the environment; and explore how these changes can be understood in terms of potential normative, cultural changes that would represent a more sustainable paradigm. In the period of the pandemic in the Netherlands, from April 13th, 2020 to May 6th, 2020, 13 Dutch citizens were interviewed on how they experience the pandemic, both generally and in regard to environmental topics. Contributions from the field of social psychology like: The Stone Age Biases Framework by van Vugt, Griskeviscius and Schultz (2014); Individual barriers for behavioural change proposed by Manolas (2015); Dunlap, van Liere, Mertig and Jones' (2000) construct of the New Ecological Paradigm Scale and; Baker's (2016) premise for sustainable development are used to identify potential changes that could imply behavioural or cultural changes in line with a more sustainable paradigm. The results suggest that covid-19 impact the respondents' lives considerably and changed the way they think about environment related topics and their own lifestyle. It illustrates that: 1) people experienced the unique situation of the pandemic as a time for reflection around their personal lifestyle and habits; 2) It reveals that the pandemic impacts perceptions around current approaches to development and a deep concern for how the world is currently arranged in terms of environmental distress; 3) The pandemic materializes the state of the world and the need for change, due to before and after images of the environment with and without human activity; 4) It highlights that the pandemic impacts perceptions around community and cooperation; 5) It reveals a general perception or belief that that the majority of society are ignorant to environmental issues.

KEYWORDS: Sustainable Development, DSP, Behavioural Change, Cultural Change, Paradigm Shift, Social Psychology

Table of contents

1 INTRODUCTION

At the turn of the year 2019 to 2020, the pandemic covid-19 announced its arrival, with unprecedented global impacts (WHO, 2020a). Not only was the virus deadly for certain segments of the population, but it also turned out to have immense impacts on economy, international trade, tourism and much more, as countries closed borders and were forced to prohibit or limit social interaction (WTO, 2020). The Netherlands chose a "smart lockdown" strategy, where some movement outside private homes was still acceptable, but where any non-essential activity was shut down to prevent the virus from spreading beyond control (Government of the Netherlands, 2020b). For most Dutch people, these measures implied a very different reality from what they were used to. This dissertation seeks to explore how the Dutch population is experiencing these changes, especially in regard to environment related issues. Before the pandemic, one of the major topics of national politics and in the geopolitical landscape, was finding ways to deal with global warming (e.g. EU, 2016; UN, 2015). As former US president Barack Obama stated in 2015 at the GLACIER conference in Alaska:

> Climate change is no longer some far-off problem. It is happening here. It is happening now. Climate change is already disrupting our agriculture and ecosystems, our water and food supplies, our energy, our infrastructure, human health, human safety – now. Today. And climate change is a trend that affects all trends -- economic trends, security trends. Everything will be impacted. And it becomes more dramatic with each passing year. (Obama, 2015)

During the last decades, the earth has shown signs of distress through an increasing frequency of extreme weather like heatwaves, changing precipitation patterns, desertification and loss of productive land and more. Research suggest that these signs are a result of an abundancy of anthropogenic greenhouse gasses in the atmosphere (Confalonieri et al., 2007). However, despite the scientific proofs of the severity and consequences of anthropogenic greenhouse gas (GHG) emission (e.g. global warming), the activities that are causing them, do not show any signs of contraction (WWF, 2018). In light of the covid-19 outbreak, numerous politicians and academics have emphasized the connection between the pandemic and environmental issues because 1) the pandemic reduce activity and thereby anthropogenic emissions; and 2) covid-19 may be an indirect result of global

warming, as several studies pointed out (see Grandcolas & Justine, 2020; Hakovirta & Denuwara, 2020; Muhammad, Long, & Salman, 2020; Thomson, 2020; Stockholm Environment Institute, 2020; Wang & Su, 2020). By considering the effects of the pandemic through the lens of the so-called "paradigm shift theory" (Kuhn, 2012), this thesis aims to determine how the circumstances of the pandemic influence the population in the Netherlands, particularly in regard to environmental matters. Moreover, it aims to assess if these changes could imply the beginning of a potential shift towards a more sustainable paradigm than the contemporary, dominant paradigm in Western industrialised societies. The research question is thus: *How do the direct and indirect impacts of covid-19 influence the perception of the environment of the general population in the Netherlands?* And the sub question: *How can these changes be understood in terms of potential normative, cultural changes that would represent a more sustainable paradigm?* To explore these objectives, in-depth interviews with 13 Dutch citizens was conducted during the time of lockdown. To analyse the data, I used the 'Stone Age Biases Framework' by van Vugt, Griskevicius and Schultz (2014) and the concept of 'individual barriers for pro-environmental behaviour' devised by Manolas (2015). A sustainable paradigm is understood through the concept of sustainable development and environmentalism (Baker, 2016), combined with the construct of a dominant social environmentalism paradigm (Dunlap, van Liere, Mertig & Jones, 2000).

The dissertation starts with a narrative of the setting and background, namely the covid-19 pandemic, and the situation in the Netherlands specifically, accompanied by a discussion of how the pandemic relates to environmental issues like global warming and consumption (for more detailed analysis on recent environmental issues, see Baker, 2016; Lacy & Rutqvist, 2015). Then, the theoretical framework is presented through paradigm shift theory (Kuhn, 2012), and the dominant social paradigm of Western industrialised societies is discussed in relation to its effects on the environment (Kilbourne & Carlson, 2008; Strazdins & Loughrey, 2007). After an overview of the main contemporary paradigm, I introduce the so-called 'sustainable paradigm' using the model of sustainable development (Baker, 2016; Lacy & Rutqvist, 2015). The theoretical framework then describes the theories within the field of psychology that inspect potential individual barriers that are hindering the development of a globally accepted paradigm focused on sustainability (van Vugt et al., 2014; Manolas, 2015). These theories come together to serve as a broader framework for understanding how changes in participants' thoughts and potential paradigm shifts may be

identified in the collected data. Then, the aim and expectations are presented followed by a description of the qualitative methods used. All the material is brought together into an analysis of the interviews where the pandemic's impacts on 1) perceptions of lifestyles and habits; 2) perceptions around current approaches to development and; 3) perceptions around community and cooperation. The dissertation is finalized with a conclusion which discusses how the collected data has given insight into the research questions.

2 BACKGROUND AND CONTEXT

2A) THE COVID-19 PANDEMIC

In January 2020, the World Health Organization (WHO) announced an international crisis: the COVID-19 pandemic. According to WHO, covid-19 is a disease caused by a coronavirus, which can cause respiratory infections and symptoms like cough, fever, tiredness, aches and pains, nasal congestion, sore throat, runny nose and/or diarrhoea (WHO, 2020b). The outbreak began in Wuhan, China in December 2019, and spread internationally in the course of a few months through international travel and trade (Readfern, 2020). Although the exact species remain unknown, the origin of the coronavirus is confirmed to be zoonotic – i.e. from an animal (Hassanin, 2020). The covid-19 is a pandemic (an infectious disease that can spread worldwide) and its fast circulation and mortality rate has demanded global attention as the disease has resulted in 119.044 deaths from December 2019 to April 2020 (WHO, 15 April 2020a). The biggest challenge of the pandemic is providing healthcare to those who are not able to handle the virus and get seriously ill, experiencing difficulties breathing and blood cloths. The virus seems to affect mainly older people and people with pre-existing medical conditions more seriously, especially those with heart disease, cancer, diabetes, or lung disease, who will need medical treatment and intensive care to overcome the illness because the virus can develop into severe pneumonia. The challenge lies in providing treatment to all who need it, because too many cases results in overflooding of hospitals and would exceed the capacity of health care providers (WHO, 2020b). The nasty consequence of overloaded hospitals is illustrated through the case of Italy, where doctors and nurses were forced to decide which patients to prioritize, as hospitals reached their maximum capacity (Horowitz, 2020). Because of this, most nations worldwide have enforced a temporary stop to all or nearly all activity, depending on the nation. Some countries like Italy were forced to impose a total lockdown, prohibiting all activity outside. Other countries followed a different strategy depending on their politics and how dramatically the situation developed. The dilemma is that, the more comprehensive the lockdown, the bigger the economic consequences, and, at the same time, the time span of any strategy (i.e. complete or partly lockdown) will have consequences as it stops activity in some way (WTO, 2020). According to WHO, current knowledge indicates that the virus appears to have somewhat similar symptoms and consequences as influenza, but because of its novelty a lot remains unknown. At this moment, a vaccine is not available (yet), and because it is novel, the virus

transmits fast through droplets from an infected individual. Therefore, WHO urges people to keep at least 1,5-meter distance to other people and to stay inside if they experience any symptoms. The way the virus acts, transmits, and develops is still largely unknown. Thus, it is not possible to terminate the virus and most people will at some point get infected. However, for those especially vulnerable for developing serious illness from the virus, getting infected must be avoided, to prevent death and overloading the healthcare systems (WHO, 2020b).

2B) DISRUPTIVE CHANGES, HEALTH HAZARDS AND THE ENVIRONMENT

Considering the characteristics of the virus, limiting the spread of covid-19 to avoid overloading hospitals and protecting the vulnerable until a treatment is available, entails major changes to human activity. Naturally, the measures necessary for combating the spread of covid-19 had both direct and indirect impacts, nationally and globally. The pandemic changed the entire globe and has affected politics, trade, national and international economy. In fact, the World Trade Organization (WTO) said that «The covid-19 pandemic represents an unprecedented disruption to the global economy and world trade, as production and consumption are scaled back across the globe» (WTO, 2019). In a press release from WTO, trade is expected to decline drastically as a result of the pandemic's disruption of normal economic activity, and they predict a decline between 13% to 32% during 2020. This result stems from two main causes: first, the rapid spread of the virus has led to a sharp increase in the uncertainty of economic development, and secondly, to limit the spread of the virus countries have limited or stopped movement of people and goods beyond state boarders, which consequently has considerably reduced economic activity as well as consumption and production (Wang & Su, 2020). The pandemic is assumed to reduce consumption demand as a result of an increased fear of unpredictability in the future, and therefore, it will be more important to save for future expenditure (McKibbin & Fernando, 2020). For humans all over the world, their existence has completely changed as lockdowns force temporary stop to all or some activity. People are forced to work from home as offices shut down, and consumption and economic activity globally is considerably reduced as any non-essential social interaction is prohibited, so for example, bars, restaurants, museums, sport schools etc. are temporarily shut down to limit spread (Wang & Su, 2020).

United Nations (UN) and other climate leaders and professionals have recently, in the context of the covid-19 global outbreak, highlighted the connections between climate

change and covid-19. Especially because disruptive events can force a change on status quo. As UN Environmental Program (UNEP) stated in a recent report:

> "COVID-19 is a reminder that human health is linked to the planet's health. Coronaviruses are zoonotic, meaning they are transmitted between animals and people. They account for seventy-five percent of all emerging infectious diseases. To prevent future outbreaks, we must address the threats to ecosystems and wildlife, including habitat loss, illegal trade, pollution and climate change." (UNEP, May 14th 2020)

The enforced limitations of covid-19 has had a visible impact on the environment as emissions dropped from the pause of activity (Wang & Su, 2020). Whether the climate positive changes will be long-term depends on how long any semi- or full- lockdown persist and how countries start up post covid-19 (McKibbin & Fernando, 2020) and whether the crisis and its implications for regular activity changes lifestyles through a change in consumption and priorities (Cohen, 2020). Shocks such as pandemics, financial crisis or natural disasters have the potential to result in rapid societal changes (Thomson, 2020). Similarly, in an online webinar, climate leaders and politicians discuss the covid-19 pandemic in the context of the role of disruptors in the transformation to sustainable development (Stockholm Environment Institute, 2020). For example, Björn-Ola Linnér, Professor at Linköping University highlights the fact that the pandemic has resulted in economic and geopolitical disruptions, which has transformative potential for creating more resilient, sustainable societies by forcing a change of perspective. This is because disruptive events create a deep sense of insecurity on how to proceed with life, and this could essentially result in a collective creativity or momentum to change habits that lead to undermining the health of the environment. As the description of the webinar neatly summarizes; "In times of crisis, social structures and institutions are put to the test and normal practices called into question. Disruptive events can lead to the emergence of new cultural expressions, daily routines, power relations and resource distribution." (Stockholm Environment Institute, 2020).

The pandemic significantly interrupted normal activity, which had visible effects on the environment, and triggered a discussion of how the covid-19 pandemic is linked to environmental aspects. The pandemic has had substantial effects on the environment,

reducing greenhouse gas emissions and pollution, improving air and water quality (Muhammad, Long, & Salman, 2020), and Hakovirta & Denuwara (2020) highlight that the pandemic has made human health a significant aspect of sustainable development, and suggest that human health should be a fourth pillar of sustainability together with society, economy and environment. The authors stress that the pandemic has illustrated that sustainability is just as much about ensuring human health as it is about an intrinsic appreciation of nature or principles of democracy and equity. Grandcolas & Justine (2020) emphasize that all the recent epidemics, like Ebola, SARS and dengue viruses are transmitted as a result of international trade, and that the loss of biodiversity combined with a demand for wild exotic animals have increased the vulnerability for humans to be infected by zoonotic diseases. "Humanity is thus doubly endangering itself: We are enabling the creation of emerging diseases and also destroying the fragile biodiversity that provides natural services from which we benefit." (Grandcolas & Justine, 2020, p. 2). The authors highlight that stopping the destruction of the environment, stop trade of unsustainable commodities and trade of exotic animals is the only way for ensuring long term, sustainable prosperity for human beings. If this does not change, the probability and frequency of epidemics and pandemics will most likely increase.

Thus, there is a link between social structures and the vulnerability for health hazards, which is associated with aspects like globalisation, consumption, wildlife and biodiversity. At the same time, scholars and climate leaders consider the covid-19 pandemic as a potential for social change, partly because it confronts the activities that led to the spread in the first place, but mainly because of the radical changes to normal activity which the measures for limiting the spread have enforced. This dissertation focus on the Netherlands, and therefore the next section describes the situation in the Netherlands during the covid-19 pandemic.

2C) COVID-19 IN THE NETHERLANDS

Covid-19 in the Netherlands has caused 2823 deaths per April 14th, 2020 (WHO, 2020b). The Dutch approach to tackling the crisis is to control the virus as much as possible and protect vulnerable groups by instating policies that limit physical contact (Government of the Netherlands, 2020a). For many countries, the strategy for combating COVID-19 has been total lockdown. For people in the Netherlands, several activities like "getting some fresh air" are still allowed. These are the rules that apply for Dutch citizens per 14th of April 2020:

1. 1,5 meters distance in all public spaces such as outside, at work and in shops (does not apply to people part of the same household).

2. Restaurants, cafes and bars were forced to close until further notice. The owners of such establishments get financial help during closure. Meal delivery and take away are allowed.

3. All work must be done from home, as long as it is possible.

4. People are encouraged to stay inside and not leave the house unless it is necessary. Necessary means getting groceries, walking the dog, get some fresh air or run an errand to help someone else.

5. Those with symptoms of any kind must stay inside until 24 hours after the symptoms have disappeared. Household members without symptoms may still leave the house to do necessary things.

6. More than 3 visitors are prohibited. Up to 3 visitors are allowed as long as they keep 1,5 meters distance.

7. Those who work in contact-based occupations (e.g. hairdressers, masseurs etc.) must stop performing their jobs until further notice.

8. Schools, childcare and universities are closed until further notice.

9. Events that require a permit are banned until 1st of September 2020.

10. Public places like museums, concert halls and cinemas are closed. Other public places like campsites, parks, beaches and nature conservation areas can be closed by local authorities if necessary, to prevent gathering of groups.

11. Shops and markets can remain open as long as the comply with the hygiene measures

12. Public toilets, showers or other washing facilities are closed

On March 16th 2020, the Dutch Prime Minister, Mark Rutte, had a speech in which he announced the Netherland's strategy for covid-19. The government's vision is to build up group immunity, stating that the majority of the population will have to, at some point, be infected by the virus. However, protecting the vulnerable and overloading health care providers remains the top priorities (Government of the Netherlands, 2020b). Though not as big of a change as for the countries on complete lockdown, for most Dutch people, the covid-19 pandemic has forced a significant change to normal activity. In the context of disruptive changes to normal activities and climate change, this dissertation will explore how

the pandemic-specific circumstances can change perceptions and priorities regarding the environment. The next chapter considers such changes through the concept of paradigm shifts.

3 THEORETICAL FRAMEWORK

3A) PARADIGM AND PARADIGM SHIFTS

The industrial revolution in the 18th century opened up for a new system of production that was then considered impossible, namely, mechanized factory systems. This significantly raised the living standard and the average levels of income, causing an increase in population (Kasa, 2008), giving birth to what Kuhn terms a "scientific revolution" (Kuhn, 2012). This revolution brought with time a paradigm shift, a fundamental, structural change in paradigm that completely restructures and modify the way we think and act. The revolution changed not only the life of many, but also dismantled previous scientific paradigm as machines enabled mass production. This in turn resulted in a massive increase in profits, productivity, and prosperity, though only in the industrialised nations, increasing global inequality between rich and poor nations (Baker, 2016; Pacey, 1991). «The collection of beliefs and concepts is what is known as a paradigm, which is a set of theories, assumptions, and ideas that contribute to your worldview or create the framework from which you operate every day» (White, 2016). According to Kuhn, without scientific revolutions and changing paradigms, humans would not progress or develop (Kuhn, 2012). He suggested that humans develop through paradigm shifts, which comes as a result of being introduced to something that deviates from what is perceived as normal or expected, because the confrontation of the irregularity triggers an inspection of, and a scepticism towards all the ideas, beliefs, theories etc. that is considered to be standard and expected. As Kuhn (2012) notes, "discovery comes not when something goes right but when something is awry, a novelty that runs counter to what was expected. In short, what appears to be an anomaly" (p.19). When anomalies appear, they can become hard to control or deal with, leading to a crisis. Eventually, "when a paradigm is threatened by crisis, the community itself is in disarray" (Kuhn, 2012, p. 18). In the perspective of the industrial revolution, the new discoveries created a whole new world view which changed the paradigm in the industrialised nations, as more and more fundamental chores could be done by machines (Kasa, 2008). For example, agricultural production was now possible in a scale that human power alone could only dream of, enabling a remarkable population growth. The discovery of engines and fossil fuels made things possible that the pre-industrialised paradigm would probably deem as witchcraft (Lucas, 2003). During the last few centuries, this development in the industrialised nations has morphed into the contemporary paradigm we are

accustomed to, which is characterized by focus on linear economic growth, high consumption, and urbanization (Baker, 2016). This paradigm is often referred to as the dominant social paradigm of Western industrial societies (DSP) and is considered by Kilbourne & Carlson (2008) in three dimensions; political, technological and economic. Milbrath (1984) defines a paradigm as "the values, metaphysical beliefs, institutions, habits, etc. that collectively provide social lenses through which individuals and groups interpret their social world" (p. 7). The dictionary defines a paradigm as "a framework containing the basic assumptions, ways of thinking, and methodology that are commonly accepted by members of a scientific community" (dictionary.com, n.d.). Thus, any paradigm can be recognized by thoughts, assumptions, and reflections around how the world works. That a paradigm is only perceived through scientific communities is a result of Kuhn's theory of scientific revolutions, as he believed that paradigms can only be effectively represented through scientific communities (Kuhn, 2012). Paradigm shifts on an individual, non-scientific level, are defined "cultural paradigms", which Arditi (1994) describe as:

> Cultural paradigms are human constructs, and the rationale by which their elements are activated is necessarily mediated by human agency. It is people who generate structural congruences, experience structural conditions, apply existing conceptual frames to interpret experience, develop lines of action according to these understandings, change the structures of the everyday and develop the need to define themselves anew, which brings new actions, both rational and non-rational, into the domain of the possible, and so on. (p. 610)

And culture is, according to Stolley (2005):

> Made up of all of the ideas, beliefs, behaviours, and products common to, and defining, a group's way of life. Culture encompasses everything humans create and have as they interact together. Culture shapes the way we see the world. It impacts how we think, how we act, what we value, how we talk, the organizations we create, the rituals we hold, the laws we make, how and what we worship, what we eat, what we wear, and what we think of as beautiful or ugly. (p.41)

To summarize, paradigm shifts are disruptive but necessary shifts in our perception of our surroundings and ourselves, caused by massive events and changes in society. The covid-19 pandemic has caused previously unthinkable changes to the dominant social paradigm of Western industrial societies, opening the possibility for our society to experience, yet again,

a paradigm shift. The virus ended up having global consequences on politics, and in January 2020, the World Health Organization (WHO) announced the emergence of a pandemic (covid-19) which would end up having global consequences on politics, economy and society (and is still ongoing). The pandemic is hardly a scientific revolution, but it does represent a global crisis which has the potential to cause a paradigm shift. As sociologist Ettore Recchi said in a recent interview regarding how the covid-19 crisis can change society:

> The majority of social phenomena have a tendency for inertia, for persisting over time, even in an era like our own, which we think of as more prone to social change. Sometimes, however, there are ruptures or discontinuities which are particularly eye-opening. This is what we are seeing right now. We are all dealing with an event that has completely upended our lifestyles. (Recchi, 2020)

A paradigm shift occurs, according to Kuhn, when an anomaly challenges the normal or expected (Kuhn, 2012). The covid-19 virus was both unexpected and unique in terms of global impact (Cohen, 2020). The dominant social paradigm of Western industrialised societies (hereafter DSP) has during the last decades received attention and critique because of the environmental challenges associated with the perpetration of this system, and its consequences on human prosperity and safety, especially for future generations (Baker, 2016; Wuebbles et al., 2017). These discoveries about our current predominant paradigm and the activities needed to keep it going, produce a level of pollution that results in global warming (Wuebbles et al., 2017). This may have been the occasion of a scientific discovery that would lead to a development of an opposing paradigm. In fact, the growing concern for the state of our environment and the long-term consequences this paradigm imposes, constitute an anomaly that challenged the idea that economic growth and technology was good for both people and the environment, and that any problem can be solved with money or technology. This requires a new way of thinking about progress that needs to posit itself "away from what once worked well, but no longer handles its own new problems." (Kuhn, 2012, p.25). The opposing paradigm that has received most attention in the past decades is called 'sustainable development', which encompasses social, ecological and economic dimensions (Baker,2016). Paradigm shifts, however, do not happen overnight, but take time to manifest. As Hacking (2012) noted:

«Kuhn was at pains to say that there is seldom such a thing as simple refutation. We have a tendency to see what we expect, even when it is not there. It often takes a long time for an anomaly to be seen for what it is, something contrary to the established order." (Kuhn, 2012, p. 19)

In a global perspective, the sustainable development paradigm has received increasing attention, but has yet to achieve its goal to stop or rearrange the human activities that are contributing to global warming (NASA, 2010). Research indicate that global warming results in an increased frequency of health hazards (Confalonieri et al., 2007), and therefore the covid-19 pandemic may prove to be an indirect impact of climate change. However, the most noteworthy aspect of the pandemic in relation to a sustainable development paradigm is the enforced temporary stop of human activity to prevent or limit spread and overloading health care systems (Cohen, 2020). This unique situation has enforced consumption to reduce as events and flights are cancelled, and economic forecasters predict that gross domestic product will shrink as a result of the pandemic (WTO, 2020). As Cohen (2020) note "It merits recognizing that COVID-19 is simultaneously a public health emergency and a real-time experiment in downsizing the consumer economy" (p. 1). The following section will discuss the outlines of a sustainable development paradigm relative to the dominant social paradigm of Western industrialised societies (DSP).

3B) THE OPPOSING PARADIGM

There is growing evidence that suggest that the DSP is complicit in environmental decline (Kilbourne & Carlson, 2008, p. 108). As Kilbourne and Carlson (2008) suggests, there are certain aspects of the DSP that are especially complicit in environmental decline. Firstly, there are beliefs such as political liberalism and possessive individualism, which bring with them consequences like justification for private property (Kilbourne & Carlson, 2008). According to this worldview, there are expectations of being able to own and possess a certain amount of personal assets. This topic is also emphasized by Lacy and Rutqvist (2015), who argue that there is a need for alternative business models based on sharing assets and owning less. They consider these new business models as part of a 'circular economy', and the circular economy is a model for sustainable development where economic growth is decoupled from unsustainable resource extraction. Lacy and Rutqvist (2015) affirm that such business models would considerably help in decreasing the demand and the associated emissions from consumption. The second issue is the economic dimension of DPS, which is

fuelled by neoclassical economics, that considers supply and demand as driving forces for pricing, consumption, and production of goods and services (Kenton, 2019). As advocates for a circular economy, Lacy and Rutqvist (2015) consider this aspect in terms of focus on linear growth and high profits, because supply and production are not driven by physiological needs, but by wants combined with a quest for infinitely increasing monetary profits. Lastly, is the issue of technology, which is a result of science focused on the "betterment of man's estate" (Leiss, 1972, in Kilbourne & Carlson, 2008). Because of this, the DSP is founded on the belief that any social or physical problem can be solved with technology, something which results in a lack of momentum in solving environmental issues, especially in regard to global warming (IPCC, 2014).

Two other aspects of both the political and the economic dimension are globalisation and capitalism. According to Baker (2016), globalisation is the localizing of production in less regulated, cheaper locations to generate high profits. Globalisation is the integration of economic activities around the world (Boyce, 2004, pp.106). Capitalism is the dominant Western economic system where trade and industry are owned and controlled privately instead of by the state, and operating for profit (Encyclopaedia Britannica, n.d.). Combined, capitalism and globalisation have enabled profit driven trade across national borders, as private corporations have been able to set up production in a location where resources are cheap, and transport and sell to locations with strong purchase power, generating high profits. Globalisation has long been considered positive because foreign direct investment can improve the economy (in terms of GDP, gross domestic product), increase income level, strengthen democracy, and strengthen the role of international agreements (Boyce, 2004). However, globalisation has enabled increased consumption and an (over)abundance of goods and services, especially in industrialised societies, and a lack of transparency in regard to environmental and ethical concerns in production and resource extraction (Baker, 2016). Thus, globalisation dissolves the restrictions posed by national borders, expanding the limit for what it is possible in terms of production and profits. This is a result of production localized in areas without limits to resource extraction and pollution, and without regulations regarding fair wages and safe working environments etc. (Greenhalgh & Rogers, 2010). The international scale of globalisation also problematizes transparency and accountability of resource extraction, production and transportation, especially in terms of social and environmental sustainability (Brears, 2018).

Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987 in Baker, 2016, p.5), which illustrates a paradigm where economic growth and development are perceived to be limited by what the planet can handle in terms of absorbing the effects (i.e. waste and pollution) of human activity and producing new recourses (Baker, 2016). It is a model for development and growth that challenges the conventional socio-economic development model based on economic growth and linear progression as the best approach, which has guided Western societies the past centuries. Considering infinite economic growth as a guide for development has led to decisions that undermine the health of the environment, like for example continuing to extract oil despite the consequences it has for biodiversity, climate, and future prosperity (Baker, 2016). This paradigm has led to mass consumption and an unsustainable use of resources (Lacy & Rutqvist, 2015). Baker (2016) argues that the conventional socio-economic model represents a poor understanding of progress, social stability, and limits to growth. By considering only instrumental values of nature, it fails to understand that prosperity is not singularly dependent on economic assets. This focus can be seen in the intense focus on measuring the 'success' of a nation in terms of GDP, which states that welfare is equivalent to consumption, and the more we consume, the more status a nation gets. Additionally, the DSP does not acknowledge (1) limits to growth; (2) that environmental deterioration leads to health issues, social unrest, resource wars, and (3) that it contributes to build a culture of dependency and exploitation of vulnerable, less developed (lower GDP) nations (Baker, 2016). To counter these unsustainable sides of the DSP paradigm, the normative principles of sustainable development are as follows:

1. Principle of Need: A focus on satisfying basic needs, both to current and future generations. Acknowledge that the DSP are driven by wants not needs. Encourage consumption patterns that are ecologically possible for all humans on the planet.

2. Intra-generational equity: A focus on eliminating hunger and poverty and an uneven distribution of resources between financially rich and poor. Acknowledge that it is principally wrong, but also understand that poverty can lead to undermining the environment to satisfy immediate needs.

3. Inter-generational equity: Acknowledge that it is principally wrong to consume all resources now so that future generations have a limited opportunity for prosperity.

4. Common but differentiated responsibilities: Acknowledge that the Western, industrialised societies hold the main responsibility for the impacts of the DSP, and that these societies should assist poorer societies in this context.

(Source: Baker, 2016, pp. 45-54)

In addition to the normative principles, a sustainable development paradigm is recognized through an environmentalist ideology which focuses on the collective level and the quality of life and is based on an ecocentric, as opposed to anthropocentric, philosophy (Baker, 2016). Ecocentrism is "a philosophy or perspective that places intrinsic value on all living organisms and their natural environment, regardless of their perceived usefulness or importance to human beings." (Random House Inc, n.d.). Anthropocentrism on the other hand is perceiving nature as instrumental, and only considers the value of living organisms and the natural environment in terms of what it can physically provide for humans (Baker, 2016). Research suggests that an ecocentric paradigm is associated with agreeing to the following statements:

1. We are approaching the limit of the number of people the Earth can support.
2. When humans interfere with nature it often produces disastrous consequences.
3. Humans are seriously abusing the environment.
4. Plants and animals have as much right as humans to exist.
5. Despite our special abilities, humans are still subject to the laws of nature.
6. The Earth is like a spaceship with very limited room and resources.
7. The balance of nature is very delicate and easily upset.
8. If things continue on their present course, we will soon experience a major ecological catastrophe.

(Source: Dunlap et al., 2000)

To summarize: the DSP will likely lead to major consequences for human development because it is a paradigm based on values that undermine the environment and the future threats associated with continuing current production and consumption patterns. Despite the scientific evidence and predictions and political efforts, the DSP has remained to current day. The indirect impacts of undermining the environment can have enormous consequences for humans, like loss of land, resource wars, financial crisis and health hazards. A paradigm shift towards one that is environmentally friendly would require radical social, political and economic changes, and a sustainable development paradigm requires

significant changes to contemporary worldviews in industrialised societies. At policy level, especially through international organizations like UN and the European Union (EU), policies and regulations in line with the principles of sustainable development are becoming increasingly important topics on the agenda (see EU, 2016; UN, 2016). However, the impacts lack momentum, and this lack of momentum is perceived to be a result of lack of efforts on an individual level. The following section will discuss individual barriers to a behaviour that comply with a sustainable development paradigm.

3C) PSYCHOLOGICAL BARRIERS FOR A SUSTAINABLE PARADIGM

STONE AGE BIASES AND EVOLUTIONARY PSYCHOLOGY

The stone age biases framework developed by van Vugt, Griskevicius and Schultz (2014) takes an evolutionary approach to explain how "environmental problems are caused or exacerbated by five key evolved psychological biases that aided the survival and reproductive interests of our human ancestors" (p.9). According to the evolutionary approach, the way humans behave is a result of our biological and evolutionary roots, which were formed during the longest period of human history: the stone age, which stands for 99% of total human evolutionary history (van Vugt et al., 2014, pp.3). In other words, the 'stone age bias' theory suggests that our brains are not designed to operate in the surroundings of contemporary urban environments because it is still stuck on "stone age settings". The authors suggest that ensuring more environmentally sustainable attitudes and behaviour (especially in terms of policy making) would be more successful if they acknowledge that the focus on equality, normative principles, selfless behaviour etc. are associated with evolutionary psychological processes. The sustainable development paradigm is based on equity, ethics and selfless behaviour, something which humans are unconsciously prone to dismiss because of five psychological processes, as discussed below.

1) A proclivity for self-interest

This bias is rooted in a survival instinct to act in a selfish way: personal assets are considered more important than collective assets. It is a dilemma between self-interest and collective interest "because natural selection favours individuals who can gain personal benefit at the expense of unrelated others" (van Vugt et al., 2014, p. 10). A sustainable development paradigm entails just this rationale: to spare resources now in order to not compromise the prosperity of future generations, and to share resources with others who have less. The authors suggest that a method to overcome this bias is to appeal to genetic self-interest,

which specifies for whom and how sustainable development may be beneficial. It is human nature to care more if it relates to interest of relatives (defined as kinship theory in social psychology, anthropology and environmental studies), if there is return on investment (direct and indirect reciprocity) and/or if the behaviour can result in a competitive advantage for the in-group (van Vugt et al., 2014, pp. 13-14).

2) Preference for immediate over delayed rewards (temporal discounting)

This bias is rooted in the dilemma of patience. Waiting for a reward is difficult because it activates evolutionary ancient brain systems, as it is not just a question of doing the "right thing". In other words, it is considered human nature to discount, or value less, the future rather than the present time, which poses a challenge for sustainable development. In fact, humans appear to have a psychological process that automatically considers the probability of future challenges to negatively correlate with time, despite any scientific proves or estimations (van Vugt et al., 2014). Additionally, the authors suggest that unpredictable and unsafe environments result in valuing the present over the future, and that it is important to acknowledge that there are differences in discount rates depending on sex, age, education and socioeconomic status.

3) Concerns about relative rather than absolute status

Having enough versus having more than others is another Stone Age bias dilemma, as people tend to prioritize relative over absolute outcomes (van Vugt et al., 2014). In other words, it is more important to have more than others now, than to collectively have enough resources for the future. This bias relates to excessive consumption, and want versus need, especially in terms of conspicuous luxury goods (van Vugt et al., 2014). Excessive consumption is related to a need for expressing status and power, to have more than others. Conspicuous consumption has deep roots in human history, which is demonstrated in the aboriginals' potlach ritual: "a showy display among the North-West Pacific native tribes in which tribal leaders give away – and sometimes burn – large quantities of valuable goods such as canoes and clothes to signal their prestige and resource holding powers." (van Vugt et al., 2014, p. 17). As van Vugt, Griskevicius and Schultz (2014) notes: "this is surprising because it means people are happy to have less, but only as long as they have more than their peers." (p. 17). An opportunity to overcome this obstacle is according to the authors to make sustainable behaviour a status symbol and to create a competitive environment for this. Most importantly, however, is to acknowledge the importance of relative status (van

Vugt et al., 2014). Thus, the norm of equity in a sustainable development paradigm would, according to this rationale, never fully succeed because of the importance of relative status. However, excessive consumption can still be reduced considerably, as long as some differences in status remain. In other words, there must still be competition and an opportunity to showcase status and power in any paradigm.

4) Propensity to socially imitate

Copying others' behaviour is a human trait as old as time, and mostly this process of mimicking happens at an unconscious level (van Vugt et al., 2014, p.19). This means that we have a tendency to copy mainstream behaviour, regardless of whether this behaviour has negative consequences for the environment. In fact, research shows that messages that discourage unsustainable behaviour can have the opposite effect (Goldstein, Griskevicius, & Cialdini, 2007). This means that efforts that encourage sustainable behaviour by highlighting that the majority is behaving unsustainably, like "100 million plastic bags thrown away every day" or "76% of people do not switch of the light when they leave the house" actually may have the opposite effect (van Vugt et al.,, 2014, p.20). The authors propose to change the emphasis by focusing attention on people and practices that do good, or prestigious individuals and leaders. Thus, as a sustainable development paradigm is founded on norms and the necessity for changing (bad) behaviour, such an authoritarian, preachy approach could be a challenge in terms of persuading the majority.

5) Tendency to disregard impalpable consequences

The intangible cause and effect aspect of unsustainable development triggers another Stone Age bias, namely the tendency to disregard impalpable consequences (van Vugt et al., 2014). For example, climate science tells us that greenhouse gasses (e.g. carbon dioxide and methane) released from transportation and agriculture increase the average global temperature (IPCC, 2014). This, in turn, melts ice in the north, further increasing the temperature in the atmosphere because the bright colour of ice reflects heat from the sun, while the dark colour of sea water absorbs heat from the sun. This then results in warmer climate and changing precipitation patterns, causing draught and resource scarcity in some parts of the world (Rodríguez-Camino, 2010). Indeed, the fact that emissions from a diesel car in South Europe contributes to ice melting in the Northern hemisphere, which in turn results in food scarcity or extreme weather in another part of the world, is a process not easy to comprehend with human senses (van Vugt et al., 2014). During the Stone Age, cause

and effect were directly correlated. Now in contemporary times however, the butterfly effect disrupts the chain of cause and effect, and it is hard for humans to understand the implications and consequences of the effects they produce, as they do not experience them directly (Duntas, 2007; van Vugt et al., 2014).

> "The term ''butterfly effect'' refers to the theory that the fluttering of a butterfly's wings is capable of creating tiny changes in the atmosphere which could ultimately cause a tornado to appear or, conversely, prevent it from appearing. It is a hypothesis that even a minute change in the initial status of a given system would have the capacity to cause a chain of events leading up to large-scale phenomena" (Duntas, 2007, p. 287)

This effect makes issues like global warming and the related consequences very difficult to comprehend. Globalisation is connected to this barrier of disregarding impalpable consequences, because of the fact that the very goods we consume are not produced from start till finish by one entity or in one location. Thus, there is no perception anymore about how things work, or how they are made and the consequences that are associated with the process (van Vugt et al., 2014). This butterfly effect represents a challenge for the impalpable nature of environmental issues. The authors suggest that stimulating sensory mechanisms would be more effective because "knowledge about our evolved sensory mechanisms suggests that people may be more responsive to environmental challenges that they can hear, smell, touch or see." (van Vugt et al., 2014, p. 23). They also argue that "positive experiences with nature can be used as a leverage to increase environmental concerns and foster environmental action" (van Vugt et al., 2014, p. 23). This is because humans are prone to appreciate nature because "evolving in and with nature may have endowed humans with biophilia, the love for nature" (Van Vugt et al. 2014, p. 24).

Similarly, Manolas (2015) emphasize that there are individual barriers that block pro-environmental behaviour (i.e. in line with a sustainable development paradigm) when environmentally responsible engagement is possible, like it is in for example the Netherlands. However, since global warming and environment is a low priority compared to other issues (Manolas, 2015, p. 14), it is not the mainstream way of doing. Thus, Manolas (2015) suggests seven individual barriers that are blocking environmentally responsible behaviour, and these are:

1) Ignorance or lack of knowledge;

2) Confidence in the power of technology;

3) Reluctance to change lifestyles. I.e. being hostile to lowering their standard of living, inconvenience and cost (monetary or time);

4) Fatalism. I.e. a feeling that it is too late to change;

5) Feeling of helplessness. I.e. that global warming and related issues feels so large that it is impossible to do anything about it;

6) Inertia. I.e. habit of acting just as un the past;

7) Fear.

(Manolas, 2015, p.14)

4 RESEARCH QUESTION AND EXPECTATIONS

There is evidence that suggests that the long-term consequences of climate change can result in more frequent and comprehensive global crises similar to covid-19 (Grandcolas & Justine, 2020; Confalonieri, 2007; IPCC, 2014). To avoid these potential threats, scientists and politicians argue that a radical restructuring of society, in a way that fits the principles of sustainable development, is necessary (Baker, 2016; Lacy & Rutqvist, 2015; UN, 2015; EU, 2016). Baker (2016) emphasize that such a restructuring would require a paradigm shift, from the dominant social paradigm based on anthropocentric ideals to an environmentalism paradigm based on ecocentric values. According to Kuhn (2012), a paradigm shift happens as a result of a scientific crisis. Some authors argue that the covid-19 pandemic could be a such a crisis, and potentially lead to a restructuring of society, possibly towards a more sustainable model as this has been a prevalent topic in global and local politics the past decades (Cohen, 2020; Grandcolas & Justine, 2020; Hakovirta & Denuwara, 2020; Muhammad et al., 2020). Prior to the covid-19 pandemic, academics, especially within the field of psychology, were trying to understand why such a paradigm shift has not yet occurred (Manolas, 2015; van Vugt et al., 2014) despite the scientific revolution emerging in the 20th century, from discovering that human activities emit greenhouse gasses that raise the average global temperature significantly, bringing about a range of consequences to ecosystems and human livelihood (Rodríguez-Camino, 2010; Wuebbles et al., 2017). Van Vugt, Griskevicius and Schultz (2014) developed the Stone Age biases framework to map the barriers blocking more sustainable behaviour that is in line with an environmentalist paradigm. IPCC (2014) similarly stress that capacity for adaptation and mitigation efforts for climate change are strongly influenced by livelihoods, behaviour and culture – in other words, by the dominant paradigm (p. 94). With this information, this study will explore if and how the impacts of COVID-19 can stimulate a paradigm shift, and the research question: *How do the direct and indirect impacts of covid-19 influence the perception of the environment of the general population in the Netherlands?* And the sub question: *How can these changes be understood in terms of potential normative, cultural changes that would represent a more sustainable paradigm?*

5 METHODOLOGY

I used interviewing as main technique. The interviews were semi-structured and in depth. I used qualitative methodology to approach my research question because the impacts of covid-19 in regard to how people think and feel about the environment is an inherently qualitative aim. That is because the aim is to uncover aspects of people's reflections, perceptions, personal experiences and feelings on the topic, and explore whether the crisis has had impacts on how they experience their relation to the environment (as immediate surrounding and as a broader system). As Taylor, Bogdan and DeVault (2015) argue, "qualitative researchers are concerned with the meaning people attach to things in their lives" (p. 7). By comparison, a quantitative approach would depend on a rigorous predetermined theoretical framework to quantitatively determine the respondent's perceptions of the environment (Malhotra, Birks & Wills, 2012). Considering the novelty and uniqueness of the covid-19 pandemic and its consequences, such a method would imply a risk of not getting a complete picture or missing important information as it only allows measuring to how many, and to what extent, the respondents fit into the predetermined model based on theory. A qualitative approach on the other hand, allows for new, unknown (to the researcher) responses, as it acknowledge that reality is a product of conscious experience, which is subject to individual differences (Taylor et al., 2015). Pre-determined questions and rigorous theoretical framework typical of quantitative methods does not account for this (Malhotra et al., 2012) and would thus only give partial and limited answers to the research question on how the direct and indirect impacts of covid-19 influence the perception of the environment. Considering validity as a term for determining the degree of meaningfulness of the research, a qualitative technique such as in-depth interviews enables participants to express their subjective perceptions, representations, and experiences. This is obtained by listening to people talk and analysing their discourses and the themes emerging from their interviews, so that "the qualitative researcher obtains first-hand knowledge of social life unfiltered through operational definitions or rating scales." (Taylor et al., 2015, p. 10).

5A) DATA COLLECTION

In the course of four weeks, 13 Dutch citizens were interviewed though video-call or physical meeting, allowing for eye-contact and a more natural dialogue. The data was collected during a 4-week period from April 13th till May 6th, 2020 in the Netherlands. The selection

criteria for the respondents were: (1) they had to be Dutch citizens with higher education; (2) they had to be between the age 20-35 years; and (3) they had to be in the Netherlands during the emergence of the pandemic. These criterions were selected as part of a purposive sampling technique to generate more valid results (McCombes, 2020). To avoid possible gender bias, I deliberately decided to acquire a somewhat equal amount of female and male respondents. The data from the interviews was used to get insight in how the respondents are experiencing the unique circumstances around the pandemic in relation to environmental issues. "Although one cannot take people's stories at face value, one can learn a great deal about how people experience their worlds by analysing how they talk about their lives and what they might be doing with words in the interview" (Taylor et al., 2015, p. 107). To ensure that the interviews remained on topic, a series of pre-determined questions were asked. However, the initial question remained open-ended (for example questions such as: "What do you miss from the limitations of the corona crisis?"), so that it was possible to also determine what they found important in general in regard to the pandemic. The aim is to identify commonalities in the way the respondents talked about how they experienced the situation, to explore patterns of significance in the data. In other words, themes allowed me to uncover threads of meaning regarding what the majority of the respondents found important, which topics they preferred to focus on. The questions asked were open-ended, to also give the participants the possibility to talk about themes that were not deliberately covered, so that they could freely branch out and cover other aspects surrounding the circumstances of the pandemic.

5B) DATA ANALYSIS

Theories from the field of psychology was used to interpret the data, namely the Stone Age Biases Framework by van Vugt, Griskevicius and Schultz (2014) and individual barriers for pro-environmental behaviour by Manolas (2015). These theories provide a framework to understand and explain why people think, feel and behave the way they do in regard to environmental topics. Such an approach can give answers to the research question, because perceptions and paradigms are, amongst other things, determined by the way people think, feel and behave (e.g. Kuhn, 2012). Cherry (2019) explains that, within the field of social psychology, the reasons behind how we think, feel and behave might be rooted in the social environment; that our thoughts, emotions and behaviours are influenced by our perception of the social environment. There are different aspects to how the social environment

influence us: through social perception we make judgements on how other people think, feel and behave, and based on how we perceive this, we decide how to think, feel and behave. Through social interaction, we make conclusions of what other people think of us, which also influence individual thoughts, emotions and behaviour (Cherry, 2019). Therefore, I interviewed people to find out how they perceive their surroundings and environmental topics during the covid-19 pandemic. The way they perceive their surroundings can, according to social psychology, influence behaviour and reveal a potential paradigm change. Therefore, I also encouraged the respondents during the interviews to express how they thought other people or countries think and behave.

A thematic analysis (TA) was considered the best method for answering the research questions because the focus of TA is "to see and make sense of collective or shared meanings and experiences" (Braun & Clarke, 2012, p. 57. In TA, there are different ways of approaching the data (Braun & Clarke, 2012). This analysis follows a deductive approach, because I used the framework of Manolas (2015) and of van Vugt, Griskevicius and Schultz (2014) to understand and identify how the changes the respondents experience relates to environmental topics. The frameworks were used to detect whether the pandemic-imposed changes weaken individual barriers that block a sustainable development paradigm (which were discussed in the literature review). A sustainable development paradigm is understood through the notion of environmentalism and sustainable development (Baker, 2016), and through the construct of an environmentalist paradigm by Dunlap, van Liere, Mertig and Jones (2000). The result of this analysis is then used to discuss the potential of the pandemic to result in a paradigm change, and if this paradigm could be more sustainable.

5C) OPERATIONALIZATION

Here below, I will detail some of the main questions asked to my participants, and the reasoning behind them. For more detailed information, the full interview guide can be found in appendix 1.

1) "What do you miss from the limitations of the corona crisis?"

This question can indicate if there is a general change in the way they think about what they used to do. Also, as a highly relevant topic in current times, it serves as a good starting question. The question can indicate their general experience of the consequences of the pandemic (i.e. positive or negative), but also, it could show their thought process and if what they perceive as limitations are the main tenets of a DSP system: infinite mobility, infinite

access, and so on. With sustained lockdown and limitation, maybe a more environmentalist perspective and a change of priorities and ideas about what a limitation is might appear. An environmentalist paradigm would, in fact, imply a change of interests, especially in the case of activities that are harmful for the environment or contributing to global warming.

2) Considering that the virus spread globally due to traveling, how do you feel about traveling now (in general)?

This relates to a few different topics. First, travel and tourism sector accounts for 10,2% of global GHG emission (Rodríguez-Camino, 2010; Schott, Reisinger, & Milfont, 2010) and is thus an activity that contributes to global warming. An environmentalist paradigm would imply a more ecocentric as opposed to anthropocentric philosophy, meaning that the environmental damage caused by traveling is experienced as more important than recreational needs, or in the case of business-related travels, economic opportunities. The question also relates to the holistic, ecosystems approach in that an incident in China got global, international repercussions. Lastly, the question could stimulate a response to psychological biases, like temporal discounting and a proclivity for self-interest.

3) Has it changed the way you see things?

This question seeks to explore whether the radical change of the surrounding environment due to covid-19 has had any direct influences on them, from the respondent's perspective. The question could also spark indirect reflections on what is important to them and what type of things they value. It also initiates a reflection of how they experience changes in general.

4) Has the fact that the virus came from an animal changed how you see animals in general? And nature, more in general?

This question explores ecosystems thinking and potential pre-conceived ideas of agriculture, global food industry and/or animal welfare. A sustainable development paradigm would imply sensitivity to these subjects, and strong opinions regarding how the food industry, animals and agriculture should be managed (if participants have specific opinion on that, or this is a topic that has no priority in their experience of this pandemic).

5) Do you think that there is a link between the health of the environment/nature and the spread of viruses? If yes, how? What needs to change in the future? Do you think there is anything you personally could do differently?

These questions explore different perspective regarding the participants' perception of cause/effect and their view on a sustainable development paradigm rather directly in the context of holistic thinking. It could also spark a reflection of how and why covid-19 became a pandemic. It can also potentially give rise to a discussion of biodiversity.

6) How do you feel about being isolated? United or divided?

This question seeks to explore whether people feel comfortable with the limitations put on their daily activities as a result of social distancing. The question could give an indication of cooperation, faith in the authorities and insight into how they deal isolation in general and the reduction in social contact.

7) The corona crisis was so sudden. What thoughts did you go through, from the beginning, when it was just news about a virus in China, to now? (unpredictable environment) – future?

This question seeks to explore their general opinions and reflections around the development of the pandemic, and how they experience an unpredictable environment.

8) Does the COVID-19 crisis make you think of previous crises that the world went through? Which ones?

This question seeks to explore how severe they experience the pandemic and whether they compare it to war or other extreme events.

9) Do you think the corona crisis is similar or different to the climate change crisis?

This question seeks to understand how they perceive climate change as a concept and whether they think of it as a crisis. It also seeks to understand how they experience and reflect on palpable versus impalpable consequences, and if they consider the virus itself (covid-19) as a palpable consequence of climate change.

10) Do you think that the crisis will have a long-lasting impact on the environment? In what ways? Why?

This question seeks to explore if they have reflected on potential long-term consequences of the pandemic and if this could be in line with a sustainable development paradigm.

11) Do you think that modern societies (e.g. Netherlands) are more vulnerable after COVID-19?

This question seeks to spark reflections on whether they feel satisfied about the current (or pre-COVID-19) structuring of society. Especially in relation to potential future threats of climate change.

6 ANALYSIS

The dominant social paradigm can be seen as guided by an anthropocentric worldview (Baker, 2016). Such a worldview has been, and continues to be, decisive in production and consumption patterns (Baker, 2016; Lacy & Rutqvist, 2015). Development such as industrialisation, globalisation and technology have enabled mass production, which provides an abundance of cheap goods and has created a business culture focused on the false premise of infinite growth, cheap production, and high profits (Baker, 2016; Boyce, 2004; Kasa, 2008; Kilbourne & Carlson, 2008; Lacy & Rutqvist, 2015; Lucas, 2003). Scientists, politicians and activists have, during the last decades, urgently warned about the future effects of the continuous extraction of recourses to satisfy habits and unsustainable consumption patterns. These urgent concerns were based on how the earth has shown signs of distress through an increasing frequency of extreme weather and health hazards, changing precipitation patterns, rising sea levels and desertification, which are all direct or indirect effects of global warming (Confaloneri et al., 2007; EU, 2016; NASA, 2010; UN, 2015; Wuebbles et al., 2017). Despite this being a prominent opinion in the global political landscape, efforts have lacked momentum to stop or limit global warming. According to van Vugt, Griskevicius and Schultz (2014), and Manolas (2015), the very nature of environmental issues related to unsustainable lifestyles are hindering momentum on an individual level, because it essentially requires every individual to consume less than now. This challenges basic human instincts because of psychological processes as discussed in chapter 3.3.

December 2019 marks the onset of the covid-19 pandemic, which is still on-going at the time of writing this thesis. The pandemic put a break on global trade, on traveling, on social events and on many other aspects of the typical 21st century lifestyle in Europe. These changes had visible regenerative effects on the environment such as clearer skies and clearer water (Muhammad et al., 2020), thereby magnifying the link between consumerist lifestyle patterns and pollutant emissions. The Netherlands chose a *smart lockdown* strategy, which, although not requiring total home isolation, radically changed the landscape of what was possible to do and to have for the Dutch population (Government of the Netherlands, 2020a). In the context of researching the presence or prospect of a more sustainable dominant social paradigm, it is noteworthy to explore how people experience these changes to their regular environment, and investigate whether they perceive their surroundings differently as a result of these circumstances. Therefore, during the course of four weeks in

the period April 13th and May 6th, 2020, a sample of 13 Dutch citizens between the age of 21-32, living in the Netherlands was interviewed on how they experience the impacts of covid-19, both in general and in regard to the environment.

Results

In the subsequent section, the result of these interviews is presented through themes representing cultural aspects (ideas, beliefs, behaviours etc.) that they question now because of the covid-19 circumstances. The goal is to answer the research question: *How do the direct and indirect impacts of covid-19 influence the perception of the environment of the general population in the Netherlands?* And the sub question: *How can these changes be understood in terms of potential normative, cultural changes that would represent a more sustainable paradigm?*

The results of the interviews illustrated that there is a perceived association between the on-going pandemic and sustainable development topics. In short, many of the respondents began to reflect on topics such as issues with globalisation, the positive effect of the pandemic on the environment. Moreover, the respondents questioned habits, busy lifestyles and the infinite quest for more, without being explicitly asked about the environment or sustainability. The topics that the respondents preferred to talk most about in relation to the pandemic was the things they used to prioritize before the outbreak of the pandemic, and the way they arranged their lives. They also liked to talk about the animal market that supposedly started the pandemic, and from there began reflecting on how globalisation works and question whether globalisation is beneficial for human prosperity and well-being. The results generated three overarching themes, and these were 1) perceptions of lifestyles and habits, 2) critical reflections around current approaches to economic development, and 3) perceptions of community and cooperation during the covid-19 pandemic.

6A) COVID-19 IMPACTS ON PERCEPTIONS OF LIFESTYLES AND HABITS

One prominent theme brought up by the participants was reflections around their own lifestyles and the society they consider themselves as being a part of. Because of the exceptional circumstances of the covid-19, they question the ways of doing, what habits they themselves have and the habits that they perceive the general population to have. Getting a distance from, or a temporary stop of their normal, everyday routines ignited reflections around how they themselves and how people around them organize their lives.

Moreover, they questioned activities they did and desires that they had before the outbreak of the pandemic. Specifically, they questioned the busy lifestyles that the surrounding society, themselves included, have created, and reflected on the insatiable need for traveling far and often. Furthermore, they reflected on whether they themselves and society were driven by wants or needs.

Rushed lifestyles

The rate and amount of consumption in the contemporary paradigm is to a large extent related to busy lifestyles. As Bellezza, Paharia and Keinan (2016) findings suggest, a busy lifestyle is considered a status symbol in the DSP. This is because people perceive busy individuals as a form of scarce resource, because these individuals are so popular that they are in a constant time squeeze to serve those who are in need of their scarce expertise. Hectic and busy lifestyles are associated with mass consumption, because it is a lifestyle based on the same value as the DSP, namely continuous economic growth (Baker, 2016). Essentially, it reflects a leading focus on exceeding, growing and earning, without any limits to growth, which is not sustainable because current rates of consumption can only continue as long as there are resources available (Baker, 2016; Strazdins & Loughrey, 2007). Moreover, slower lifestyles would decrease demand for goods and services, especially of those services and goods that are designed to save time, like for example fast-food, technology and transportation. Thus, a slower lifestyle would be an inevitable part of a sustainable development paradigm, because it is guided by limits to growth, and limits to growth entails limits to production and consumption (Baker, 2016). Six of the participants questioned the fast pace of normal activity. As participant T, a 22-years old male Dutch student from Dordrecht said about the covid-19 virus:

> It just came so fast, and it spread so fast. That shows how fast-- How much people-- How many people are in a hurry, and how much they are traveling, [and that] people are always in a hurry. And people need to go there, and do this. Especially in the Netherlands, I think people are a bit stressed. (13.04.2020)

Similarly, participant KB, a 22-years old male Dutch student, also from Dordrecht, said:

> I think it (the restrictions from covid-19) also has a positive side. That you value other things also more, like spending time at home. And I think, yes-- You just calm down right now. When people don't get stressed anymore, they don't need to rush. (15.04.2020)

Not all agree on this topic however, as respondent FW, a 32-years old male pilot from Utrecht said: "I'm bored. I want to meet people. I'm a social man, so I don't like this isolation" (04.05.2020). Nearly all the participants reflected on the fast pace of life before the pandemic either explicitly or implicitly, and how that is something they now consider as negative because they appreciate that everything is slower, and that the pressure to experience as much as possible, and being efficient, social and productive was now gone. It seems as if they experience this as a relief, as participant L, a 24-years old female photographer from Friesland said:

> For the first time ever noticed that I do not actually have to be so productive. That I actually do not have to be productive. And that I actually did not have to make myself useful. And that was a really important realisation. That even if you really want to be useful, that you always have to ask yourself if it is a sincere pursuit, or if it is only a-- That you just do it because you do it: That you always feel like you have to do things on a certain intensity. (21.04.2020)

As measures for preventing the spread of covid-19 only allow for strictly necessary activities (Government of the Netherlands, 2020a), the respondents find themselves in a unique situation of being in their normal surroundings, but with very limited access to all the things they were used to. It forced everyone to work from home (thereby less movement), to limit social contact and to stay inside as much as possible. This enforced a significantly slower lifestyle, and abruptly eliminated many tasks, appointments and obligations, and enabled an opportunity to "look back on life" and reflect on what they are satisfied with in their lives, and what they are not satisfied with. As the quotes emphasize, they experience 'normal activity', or 'before covid-19 activity' as rushed and find it positive that everyone was forced to slow down. The central message of the Stone Age Bias by van Vugt, Griskevicius and Schultz (2014) is to highlight that there are psychological biases that hinder *behavioural change* that is more environmentally friendly. Similarly, Baker (2016) stress that the current, anthropocentric development paradigm is unsustainable because it is based on values and activities that degrade the environment. In this context, any behavioural change that implies less activity and consumption would probably have positive effects on the environment. If these contemplations turn out to represent a behavioural change in terms of priorities, and more careful considerations of how much activities and possessions that are needed for happiness, this would mean a less prevailing, constant and insatiable quest for more; better;

and different. Likewise, as Manolas (2015) emphasize, reluctance to change lifestyles does present a barrier for sustainable development. The consequences of the pandemic could result in a preference for less busy lifestyles, which would reduce demand and the associated emissions of production and resource extraction.

Wants versus needs

In a sustainable development paradigm, it is recognized that Western consumption patterns are driven by wants, not needs (Baker, 2016). The specific circumstances around the covid-19 pandemic triggered reflections among all the respondents around which aspects of their life they value most. As respondent FS, a 22-years old male student from Dordrecht said:

> Being together with people is always like a very normal thing here, and now I start to appreciate it much more already. So, I think when this is all over, the first months I will really appreciate being together with people. Does not matter where it is. (14.04.2020)

And similarly, J, a 22-years old entrepreneur form Dordrecht, adds: "Seriously, I think we learn to enjoy little things, and that's nice. That's really cool" (03.05.2020). Appreciation for the small things is something which was also emphasized by respondent W, a 22-years old male artist from Breda: "Remembering how things were-- Missing things is way-- Makes you realise how much you had" (23.04.2020). As the quotes indicate, the circumstances around the pandemic seem to bring about an exploration around whether what they pursue actually leads to the wanted reward or satisfaction; and a critical assessment of what kind of satisfaction the seek. They all highlight that they miss the ordinary aspects of life, which they feel like they took for granted before the pandemic. The 'only do what is strictly necessary' guidelines of the government (see Government of the Netherlands, 2020a) seem to have influenced a more deep, holistic reflection around what they, personally perceive as being strictly necessary in their lives. Not only for the time of lockdown, but also in regard to the future, and which desired they want to prioritise when all the restrictions are repealed. Comparable to the rationale for less busy lifestyles, this theme represents opportunities for behavioural change in terms of the quantity and quality demand for commodities and activities (Baker, 2016; Manolas, 2015; van Vugt et al., 2014). It is also worth mentioning this theme in connection with a circular economy and circular business models as modelled by Lacy and Rutqvist (2015). A reduced demand for possessions and activities denotes better

circumstances for recycling, sharing assets and extending products' lifetime by making quality products, which are production processes in the business models of the circular economy (Lacy & Rutqvist, 2015). Essentially, careful considerations of wants versus needs would likely reduce consumption and the related emissions considerably because demand is scaled down. As respondent M, a 23-years old female waitress from Alkmaar said:

> This virus gives us the chance to experience what it is like to live with less, and for me to see that I don't need that much to be happy. Or maybe I'm even happier without it. So, I think that will be good for everyone to experience now, and for everyone to learn that it is just a habit that we have, and that we can live without it, and we can thrive without it [without all the stuff and experiences]. (13.04.2020)

And similarly, as T, a 22-years old male student from Dordrecht said:

> I'm quite happy with the life I'm living now. That I can do what I want, go where I want and see who I want. And this situation is what made me realise more how much I love that actually. I appreciate that. And now when it falls apart, and it is not possible; That is something that I really realise at the moment. (13.04.2020)

As Manolas (2015) emphasized, being hostile to lowering standards of living pose a barrier for sustainable development. Additionally, one of the most environmentally degrading human activity is mass consumption because it generates a demand for an (over)abundance of commodities and services; generates waste; and is also associated with a sedentary lifestyle (i.e. lifestyles involving none or minimum physical activity) (Baker, 2016; Mayell, 2004). The pandemic has set in motion a re-assessment of which aspects of life that are truly rewarding, and the conclusions of the respondents are in the direction of a realization that 'less *is* more'. This phenomenon also has support in research which indicate that, as long as basic needs are met, excessive money and assets does not correlate with subjective happiness (Ahuvia, 2008; Mayell, 2004).

Collectively, these reflections around lifestyle aspects and a new appreciation for the ordinary aspects of life, could represents an opportunity to overcome certain barriers for a sustainable development paradigm. Since the covid-19 pandemic force a break in habits, most activities are forced to a halt, which represents an opportunity for overcoming the barrier of inertia as proposed by Manolas (2015). It denotes a potential for changing old habits as one is forced out of the state of inertia to deal with the unusual situation of covid-19. This is also in line with Thomas Kuhn's rationale for when an anomality appear, as this

confrontation brings about an inspection of, and a scepticism towards all the ideas and beliefs that are considered to be standard and expected (Kuhn, 2012). Moreover, the situation is also in line with the 3rd Stone Age Bias for concerns about relative rather than absolute status (van Vugt et al., 2014). As the results suggest, people are indeed happy to have less. The fact that nobody is able to sustain the consumption rate as in their pre-covid-19 lifestyle, appear to have an effect on how the respondents experience being deprived of opportunities for doing and having. Seeing as the pandemic effected nearly every country in the world, the total activity (GDP) is reduced (WTO, 2020), but relative differences remain, allowing for competition and status (van Vugt et al., 2014, 3rd bias). Presently, it is still unclear when normal activity will be able to go back to 'normal', and some question if it will ever go back to how it was before covid-19 (McKibbin & Fernando, 2020). Thus, temporarily, and for an unknown duration, consumption of both goods and activities has been forced to a level that is considerably more sustainable because of the reduction in emissions from production and consumption. The Dutch citizens interviewed for this research all emphasized that they experience the lifestyle-related changes from the pandemic as relatively positive, because it removed the pressure they normally experience from their surroundings. They also appreciated the opportunity to reassess what they normally spend their time on. Seeing as the barriers for a sustainable development paradigm emphasize that this paradigm goes against basic instincts (van Vugt et al., 2014), the responses from the interviews indicate that a sustainable lifestyle does not necessarily have to imply a less fulfilling lifestyle.

6B) COVID-19 IMPACTS ON PERCEPTIONS AROUND CURRENT APPROACHES TO DEVELOPMENT

As a response to how fast the covid-19 virus spread globally, the respondents were prompted to reflect and question the way the world is arranged, especially in terms of globalisation and the associated lack of measures to contain these types of viruses. Another pattern of significance was the relationship between nature and viruses. The latter topic was also part of the questions asked during the interview. Globalisation and the relationship between nature and viruses was the themes that received the most elaborate responses.

Globalisation

The majority of the participants prioritized the theme of globalisation when asked about their thoughts around animal trade, covid-19 and traveling. Because the virus came from a

source in China, it made the respondents question the dependence on resources from China and other parts of the world away from Europe and the Netherlands. As participant FS, a 22-years old male student from Dordrecht said:

> The world is open right now that things like this can spread very easily. So yes, it is really a result of how we-- How we handle the world, and a result of all this open, globalising stuff. Yes, then it really is-- because if this happened 200 years ago it would have stayed in China I think. But now it is yes-- a pandemic. (14.04.2020)

Participant KB, a 22-years old male student also from Dordrecht similarly stated that:

> I think we will, like as a society; as an economic society think about producing abroad. You know-- As you see [now] we are very dependent on China, or Asia, let's say that. And if Asia goes down, then Europe goes down also because we are very dependent on them. So, I think some companies will look for a new way to produce at home, or at least in Europe. (15.04.2020)

This theme is something that most of the respondents found relevant to talk about because of two different aspects of the pandemic: One aspect was the fact that the virus originated in China and spread to Europe through trade between EU and China; The second aspect was how much effect globally something that happened in one part of the world ended up having. My participants questioned the degree of transparency in production and resource extraction and how responsible (both in terms of the environment and for human health) production is in China. Some of them reflected on the topic by specifically mentioning globalisation or reliance on production in China (as symbolic vessel representing production in underdeveloped countries). Others were discussing opportunities to travel and produce more locally, which are prominent topics in literature in the context of sustainable development (see O'Kane, 2011; Rodríguez-Camino, 2010; Schott et al., 2010). The DSP is based on the benefits of globalisation, because it allows for mass consumption and production, economies of scale, and high profits (Greenhalgh & Rogers, 2010). The respondents were questioning the actual benefits of globalisation and were critical towards the potential consequences of it in regard to health hazards and fairness in production (i.e. intra-generational equity in sustainable development) (Baker, 2016). Four of the respondents reflected around the potential of the pandemic to make local products and food more popular, because the circumstances have generated an increased attention and a drive to support local businesses through these economically challenging times. These four

respondents had made a conscious decision to mainly buy from local businesses and discussed the potentials of using this time to promote locally produced. As KM, a 26-years old male entrepreneur from Rotterdam said:

> You see all these initiatives as well: with the groceries from the local farmer. And like, from urban farms. And yes, just initiatives to support locals more and more. And it is- - That is super interesting at the moment. That people start considering [prefer] that when something is grown local or produced local. (26.04.2020)

The majority of the participants, however, reflected on globalisation in terms of control. The respondents experienced an increased distrust in goods that come from outside national borders, and especially outside European borders. Therefore, they questioned the way some countries (China in particular) organize themselves in regard to hygiene; animal welfare and trade. Consequently, many of the respondents emphasized that the cheap price of products produced in China is a result of unsustainable production processes without requirements for safety and hygiene. Furthermore, my respondents questioned how the animal market in Wuhan, China is allowed to exist in the contemporary enlightened days and were critical to how vulnerable Europe is to changes in China. For example, FW, a 32-years old male pilot from Utrecht said:

> It [covid-19] has such a big impact internationally globally. It is quite strange that these markets are about to open again in the future. I think these markets should be closed for always and there should be a good instance for [governance of] transparency of these markets and keeping these markets closed. (04.05.2020)

Moreover, M, a 23 years-old female waitress from Alkmaar said: "Our whole planet: it is very poor [in poor shape]. We are not treating it the right way. And I think that contribute to the spread of these viruses" (13.04.2020). Similarly, W, a 22-years old male artist from Breda said:

> We took a piece of nature and made the conditions of that bit of nature very poor, which caused viruses to inhabit that piece of nature. In this context, the animal markets. Like, lots of animals got this virus before we did, which caused it to jump to a human. . . So, if we massively reduce the quality of some nature, that will have an impact on us. (23.04.2020)

The way the respondents reflected around the topics indicates ecocentric statements, like the constructs of the New Ecological Paradigm scale as discussed in chapter 3A (Dunlap et

al., 2000). Particularly, the reflections indicate that they suddenly (as a result of the pandemic) experience international trade as an issue, because of the fact that it is difficult to have control and transparency in how other countries produce their goods. The lack of transparency, which before went unnoticed, has become a source of suspicion and dread, as it makes it impossible for them as consumers to know how products are made; what they are made of; and how they get their resources. This is not something that is new to the respondents, but the covid-19 pandemic appears to act as a reminder of how the world works; how globalisation works; and a reflection of whether this is actually the best paradigm for the long-term sustenance of humankind. In a way, it seems to remove the barrier of ignorance (Manolas, 2015) as it makes the consequences and challenges of globalisation palpable (van Vugt et al., 2014). As respondent D, a 23-years old male artist from Zwijndrecht said:

> China is actually a country where we get all our products from, so they are an important producer of a lot of stuff. We prefer to hire China to produce our stuff because of their specific conditions. They want to produce a lot, and I want really cheap labour force. . . The West have taken advantage of the Chinese economy and the Chinese culture, so to [so that Western countries can] earn money on it. I think with respect to that that they are linked [the way we arrange the world and the spread of viruses] and through that, the opportunities for a virus are created. (22.04.2020)

If the covid-19 pandemic changes perceptions around globalisation by making people more sceptical to goods produced elsewhere, it would increase the popularity and demand for locally produced goods. This could create a new potential for more sustainable development, because locally produced would 1) increase transparency in production because it happens within national borders, and 2) reduce transportation emissions (Ehrenfeld, 2003; O'Kane, 2011). Locally produced would also provide a better opportunity for circular business models (Lacy & Rutqvist, 2015). If locally produced becomes preferred over things that are produced in China or similar locations where production is cheap; lacks transparency; and sustainable production methods (Baker, 2016), this would mean a new consumption culture because it would limit the opportunity for economies of scale, and thus also cheap goods and mass production. This is because prices of products would reflect the actual costs of local production. Moreover, the theme of globalisation is also closely related

to questions around inter-generational equity in production processes in other countries (Baker, 2016). Van Vugt, Griskevicius and Schultz (2014) discuss stone age biases that hampers sustainable behaviour because sustainable options essentially means giving up something or replacing with a less attractive option. If the pandemic results in a change of demand in terms of how products should be produced (particularly in regard to environmental and hygiene aspects), it would indirectly result in more sustainable behaviour, without the feeling of having to give up something or being reluctant to change lifestyles (Manolas, 2015; van Vugt et al., 2014).

Nature and viruses

Another significant theme was reflections around why the pandemic happened in the first place, which brought on certain values related to environmentalism (Baker, 2016) as they tried to make sense of what is wrong with the world that enables a virus to emerge and have such big impacts. The temporary global halt in activity due to the pandemic had visible impacts on the environment (Muhammad et al., 2020), which resulted in news articles and social media posts depicting clear views and clear waters due to reduced emissions. For example, the citizens of the Indian city Jalandhar could see the view of the Himalayan mountain range for the first time in 30 years (Picheta, 2020). Such images have flourished on the internet during lockdown times, something that got the attention of all the respondents, resulting in statements like FS, 22-years old male student from Dordrecht said: "The last 100 years we really messed up the world. And now the world is taking a pause to reset itself" (14.04.2020). And similarly, as J, 22-years old male entrepreneur also from Dordrecht said: "Too many people; too much production. It is not in balance the world anymore. . .Maybe that this [covid-19] is just kind of a pushback from the world like-- or from the environment in order to get everything in balance again" (03.05.2020). P, a 29-years old male entrepreneur from Utrecht echoed: "The virus makes us unable to consume so much. So, it makes the world-- Yes the world can breathe again» (05.05.2020). Other respondents also reflected on this topic:

> I think this is like the ultimate wake up call for us. Like now we are actually seeing what can happen if we do not-- What can happen if we live in peace with nature . . . The whole virus thing. It is like: we know about the climate change, but now we can actually see how bad it was. (M, 23-years old female waitress from Alkmaar, 13.04.2020)

Similarly, V, a 23-years old female HR employee from Rotterdam said:

> I am not that spiritual or something like that, but I do believe that this is a sign. Because the earth is just exhausted. Like the fact that there sometimes comes a tsunami: that is a sign that it is not going so well. (26.04.2020)

The 5th stone age bias by van Vugt, Griskevicius and Schultz' (2014) framework suggests that one reason for the lack of momentum of the initiatives to reduce global warming lies in a tendency to disregard impalpable consequences. The temporary stop in activities due to the pandemic has created a visual, physical comparison of the environment with and without human activity (Muhammad et al., 2020). This visible, palpable difference triggers a reaction from the respondents, resulting in a reflection of how human activity changes the world, just as the 5th Stone Age bias suggests (van Vugt et al., 2014). All the respondents react with amazement to the difference and question the magnitude of human activity on the environment and become critical to current development models because they appreciate the change the pandemic has had on the environment. Following the rationale of Manolas (2015), it could be that the circumstances removes certain barriers for behavioural change like ignorance and inertia. All the respondents reflected with amazement on the impact that a stop in activity had on the environment and gave some relatively poetic ecocentric statements about how human activity is damaging the planet in line with the constructs of Dulap, van Liere, Mertig and Jones' (2000) New Ecological Paradigm scale. Interestingly however, none of the respondents believed that this could be a long-term change, because they do not have faith in that people can change; indicating a barrier of fatalism (Manolas, 2015). As respondent P, a 29-years old male entrepreneur from Utrecht said: "I think we humans are so-- so in love with our freedom; so in love with-- or so used to also being able to travel globally. Look for freedom, excitement and danger in other countries; Seeing different cultures" (05.05.2020). And similarly, as FW, a 32-years old male pilot from Utrecht said «I do think that 'Me myself and I' is a pretty popular term and people-- Well if they really have to make a choice, they always choose for themselves instead of others» (04.05.2020).

These statements seem to indicate that the respondents perceive sustainable attitudes and behaviour as inherently selfless and being about sacrificing something for the sake of others. This is in line with the arguments for why proclivity for self-interest presents a barrier for sustainable behaviour is (van Vugt et al., 2014). Surprisingly though, as reflected

in the quotes, most of the respondents thought of themselves as someone who would act in such a way, but they did not believe that this attribute was something the majority of society could hold. They hoped for it, but they were sceptical. This phenomenon represents a challenge for sustainable behaviour, especially because behavioural mimicry is a well acknowledged human tendency in the field of social psychology (van Vugt et al., 2014). All these reflections around how the world could be better, might represent a change in people's values more in line with an ecocentric, sustainable development paradigm (Baker, 2016). However, their scepticism towards whether other people would do the same, could have the opposite effect, as illustrated in the 4th bias: the propensity to socially imitate (van Vugt et al., 2014).

The rare covid-19 situation enables the effect of human activity on the environment to become palpable by illustrating physical evidence of the environment with and without human activity (Picheta, 2020; Wang & Su, 2020). Following the rationale of palpable consequences, biophilia cues could trigger an innate, genetical appreciation for wild nature and a clean environment (van Vugt et al., 2014). This could, if sustained in the long-term, develop into a normative change in regard to how the environment should look and be treated. However, the respondents lack of faith in others to make a change that they would hope to see. This could eventually limit this potential according to the bias of copying others behaviour (van Vugt et al., 2014). As the quotes illustrate, most of the respondents do perceive a change in themselves as a result of the pandemic but doubts that this is something which they can count on the rest of society to do.

<u>6C) COVID-19 IMPACTS PERCEPTIONS AROUND COMMUNITY AND COOPERATION</u>

Community and cooperation were other patterns of significance in the results. The covid-19 outbreak resulted in governments taking measures that significantly limit normal activity to protect the vulnerable (The Government of the Netherlands, 2020b). None of the respondents had any known health issues that would imply that being contaminated with the virus would have serious or fatal consequences, and one of the respondents had just recovered from the disease without any significant implications. Nonetheless, the pandemic required everyone to make substantial changes to their personal lifestyles to protect the vulnerable group of society. It forced the majority of society to stop their normal activity and stay inside as much as possible to prevent contamination (WHO, 2020b). This unique situation made all the respondents emphasize cooperation. Like M, a 23-years old female

waitress from Alkmaar said: "I also see kinds of changes. Not that much, but like, small things in the energy of other people. . . And that is very special. That is not something you-- Something that would have happened without the virus being here" (13.04.2020). J, a 22-years old male entrepreneur from Dordrecht echoes this sentiment by adding: "I do see that people care a bit more about each other than before. . .They make things like: actions for support your local or help hospitals get through this hard time" (03.05.2020). Reinforcing societal unity is something also FS, a 22-years old male student from Dordrecht, noticed: "Now everyone is like: we are one, we are one country and we do this together" (14.04.2020). It seems that the less prevailing individualism in their surroundings has caught their attention, and they consider it as a positive change in society. A less individualistic society is considered crucial for a transition into a more sustainable economy (Baker, 2016; Lacy & Rutqvist, 2015), and is thus a part of a sustainable development paradigm. Less individualistic society would also imply a change away from the DSP, which is based on ideals of private property and individualism (Kilbourne & Carlson, 2008). Some of the respondents also reflected a certain dissatisfaction around individualism in society and expressed that society ought to care more for each other and be less selfish, which is a valuable change in terms of inter- and intra-generational equity (Baker, 2016). In the context of psychological barriers for a sustainable behaviour (van Vugt et al., 2014), the covid-19 situation appears to generate a less prevailing focus on selfish needs for the sake of the vulnerable, and to prevent the health care to become overloaded (the Government of the Netherlands, 2020b). Seeing how people care for each other during the pandemic appear to inspire the respondents and generate a feeling of unity. None of the respondents complained about the limitations, and though they all expressed that they miss their freedom, they still emphasized that helping others was significantly more important than personal wants, which is very much linked to values associated with intra-generational equity (Baker, 2016). Some also emphasized that they feel lucky that it was still possible to get food and other things necessary for survival, and that the national health care system was able to receive all patients. They thought that was something that should not be taken for granted. As FS, a 22-years old male student from Dordrecht said:

> It is like a luxury problem that your freedom is getting taken away from you a bit. And it is not nice of course. But then you see those videos from Kenya and other African countries, and then you think like; what are we talking about? we can't go on parties,

that's of course really bad for us, but for them it's like-- They don't even have food. So you really start to appreciate it. (14.04.2020)

Which W, a 22-years old male artist from Breda said in different words:

Your first thought is like: oh, it is fine for me because I am young anyway, so I will not die from it. And that suddenly shifts to; no it is not about me, it is about all the people that I could possibly infect. (23.04.2020)

These quotes are also related to the 1st stone age bias; a proclivity for self-interest (van Vugt et al., 2014) as it implies a focus on collective interests as opposed to individual, self-interests.

7 SUMMARY, DISCUSSION AND CONCLUSION

The research question was *How do the direct and indirect impacts of covid-19 influence the perception of the environment of the general population in the Netherlands*, and the sub question was: *How can these changes be understood in terms of potential normative, cultural changes that would represent a more sustainable paradigm?*. Thus, the aim of this thesis was to explore how the direct and indirect impacts of the covid-19 pandemic influence the perception of environmental subjects. The study was conducted in the Netherlands on a selected sample of Dutch citizens who were located in the Netherlands during the offset of the pandemic. Additionally, is was an objective to study how the changes in perceptions discovered could be understood in terms of potential normative, cultural changes that would represent a more sustainable paradigm. In light of the increasing attention to environmental challenges during the past decades, combined with the radical structural changes brought about by the covid-19 pandemic, this thesis sought to identify potential opportunities for a change in values, specifically in regard to environmental topics. Ideas, values, beliefs, behavioural intentions and perceptions together represents a paradigm, and if there are prominent changes in these aspects, it could represent a paradigm shift (Kuhn, 2012). The rationale of paradigm shifts was used as a theoretical framework to understand exactly how changes are identified. To understand the characteristics of the current dominant paradigm and the potential paradigm we could shift into, the DSP was compared to sustainable development and ecocentrism, which are constructs of an opposing, more sustainable paradigm (Baker, 2016; Dunlap et al., 2000; Kilbourne & Carlson, 2008; Lacy & Rutqvist, 2015). Furthermore, to clarify environmental aspects of the changes the respondents experienced, the concept of psychological barriers for a sustainable behavioural change was used to identify how a change in for example values can be associated with a change from unsustainable to sustainable paradigm (van Vugt et al., 2014; Manolas, 2015).

      This thesis contributes to the knowledge about how solving or mitigating environmental issues could be more successful (van Vugt et al., 2014; Manolas, 2015); and whether there is a bigger potential for more sustainable behaviour after the covid-19 pandemic (Cohen, 2020; Recchi, 2020; Stockholm Environment Institute, 2020; Thomson, 2020). Additionally, it adds to our understanding of the possibility for a paradigm shift (Baker, 2016; Dunlap et al., 2000 Lacy & Rutqvist, 2015) as it gives an impression of how a

change of mindset as a result of the pandemic can potentially change demand and reduce emissions and consumption.

The results of the research suggest that the direct and indirect impacts of covid-19 on the respondents' lives considerably changed the way they think about environment related topics and their own lifestyle. Although the questions asked during the interviews were explicitly about the connection between the pandemic and environmental issues, the questions served more as an introduction of a topic and mostly set in motion long; seemingly heartfelt and genuine reflections of how the world is arranged. The contemplations they expressed seemed like a genuine longing for a better world, as they expressed worry about how humans are treating and organizing the world.

Firstly, it illustrates that people experienced the unique situation of the pandemic as a time for reflection around topics like their personal lifestyle and habits, specifically about busy lifestyles and the pursuit of possessions and experiences. They considered the value of changing their own habits and desires as they reflected on the actual benefits they receive from the possessions, achievements, recognitions and experiences they pursue. Despite their freedom being taken away, they were surprisingly positive, as they experienced the pandemic as an opportunity for changing old, destructive ways of doing and thinking. This reassessment apparent from the interviews imply that the consequences of the pandemic could act as a confrontation of an anomaly and potentially result in a paradigm change as people become sceptical to what is considered standard and expected (Kuhn, 2012). Manolas (2015) and van Vugt, Griskevicius and Schultz (2014) emphasize that reluctancy to change behaviour is blocking a more sustainable paradigm. Judging by the results of the interviews, the covid-19 pandemic has to some extent given a newfound motivation, or a reason; to slow down the activity level, which has reduced consumption considerably (Wang & Su, 2020; WTO, 2020). These forced changes to activity are of course a consequence of the pandemic and thus temporary, but if these critical reflections around busy, hectic lifestyles stays and manifests as an increased evaluation of time, it could imply a change away from a paradigm where being busy is associated with status, and ultimately reduce consumption on the long term (Bellezza et al., 2016; Mayell, 2004). Moreover, the results indicate that people can be happy with less and it demonstrates that they are able to cope with major changes. If the temporary change in perceptions around which activities that are driven by wants and which that are driven by needs, turns out to be a change in values, then changing

lifestyles to a more sustainable one would no longer be a question of lowering standards (Manolas, 2015) or about giving up on personal assets (van Vugt et al., 2014). Furthermore, seeing as the pandemic has reached almost all corners of the world, GDP has sunk everywhere (WTO, 2020). This means that the total global consumption and production has sunk, but that the differences remain, allowing status and power to still persist and thereby satisfying the stone age bias of prioritizing relative over absolute status (van Vugt et al., 2014).

Secondly, this work illustrates that the pandemic impacts perceptions around current approaches to development. Specifically, on the actual benefits and risks of globalisation; and the actual condition of the environment. Most of them expressed a deep concern for how the world is currently arranged in terms of environmental issues like extreme weather, drought, resource scarcity and emissions. Globalisation was an especially emergent topic because the current situation of the pandemic shed a new light on what the consequences (both for human health and for environmental and social sustainability) of this activity is and put the spotlight on this international way of structuring and arranging trade. The respondents who consciously choose to buy local products are possibly more educated and involved in some degree in a more sustainable paradigm, as they specifically mention issues around mass production and are advocating for a circular economy (Lacy & Rutqvist, 2015). However, for the rest of the respondents, if the distrust or nervousness regarding goods outside national borders manifests in the long-term as a norm, it would change the dominant social paradigm by increasing demand for local produced and consequently decrease demand for non-local goods. This would considerably reduce the emissions from unsustainable production of the DPS (Ehrenfeld, 2003; O'Kane, 2011) and could pave the way for production methods that are governed by limits to growth; recycling and sharing assets (Baker, 2016; Lacy & Rutqvist, 2015). On the other side however, eliminating poverty remains an important goal for sustainable development and a reduction in demand for global trade would imply that many people would lose their livelihood, especially in poorer countries (Baker, 2016).

Furthermore, the situation seems to materialize the state of the world and the need for change, mostly as a result of before and after images of the environment with and without human activity. The restrictions on normal activity had visible impacts on the environment because consumption, tourism and transportation were reduced (Muhammad

et al., 2020; Wang & Su, 2020). Thus, the pandemic provides a rare opportunity to compare between what the world looks like with and without human activity, making this effect palpable for the senses. Thus, it is in line with the 5th Stone Age bias of disregarding impalpable consequences (van Vugt et al., 2014), and it implies that activating sensory mechanisms makes any issue appear more real or important. The results suggest that sensory evidence of environmental issues have a strong impact of how serious environmental issues are perceived as all of the respondents spontaneously brought up images of the environment with and without human activity.

Third, the pandemic impacts perceptions around community and cooperation. They expressed that they were both surprised and inspired by the level of community and cooperation during the pandemic. The feeling of community, compassion and cooperation that came as a result of the pandemic served mostly as a source of inspiration and awe. In light of that, many of the respondents expressed a concern for how individualistic society normally is, and everyone ought to be more compassionate of others. Such values are crucial in a sustainable development paradigm because it is based on norms of intra- and inter-generational equity (Baker, 2016). Community and compassion can also represent a less prevailing proclivity for self-interest which is a barrier for behavioural change (van Vugt et al., 2014).

Fourth, the results indicate a general perception or belief that that the majority of society are ignorant to environmental issues. This represents a challenge for behavioural changes that are more sustainable because of the propensity to socially imitate (van Vugt et al., 2014). If people are under the impression that most people behave unsustainably, they will likely do the same. This knowledge contributes to evidence that suggests that environmental statements should be phrased carefully and formulated in a way that emphasize all those who do good (e.g. Goldstein et al., 2007).

Overall, the covid-19 pandemic has influenced the way the respondents experience and perceive environmental issues because the circumstances appear to give an opportunity to look back and judge former ways of doing and thinking. Combined, the pandemic-infused reflections and changes seem to match with the general values of a more sustainable, ecocentric paradigm in line with the concept of sustainable development based on ecocentric values (Baker, 2016; Dunlap et al., 2000). Whether these changes will persist remains unknown, but if the opinions and reflections of the respondents are representative

for the majority of society, the results of this thesis could imply a changing paradigm where sustainable, ecocentric values are more prominent than anthropocentric and consumptive values. However, the sample size of the study cannot be generalizable. Only a larger study based on a representative sample could confirm or reject if the results are generalizable to the Dutch society.

The results of this thesis confirm Kuhn's rationale for paradigm shifts; that crisis and irregularities set in motion reflections around what is standard and expected (e.g. busy lifestyles, globalisation etc.), and reflections on possible alternatives for a better future. The pandemic forced a temporary break in most activities, facilitating a rare opportunity to test what it is like to possess; achieve and do less. Thus, in more implicit terms, the pandemic has brought about a re-assessment of personal lifestyles, which, judging by the results, appear to be in line with a more sustainable paradigm (less busy; more focus on needs than wants; critical perceptions of globalisation; and a stronger focus on the effect of human activity on the environment). Despite the prominent sustainable values and opinions of how the world is and ought to be arranged which emerged from the interviews, there is a limited acknowledgement of their own, personal contribution to the global issues they discussed. This was apparent as most of them blamed the market in Wuhan, China for the virus emerging in the first place, and when on the topic of unsustainable production and resource extraction of products produced elsewhere, it was clear that that was a fault of the producing county. Moreover, when asked if they personally could do something different, the majority said no. Consequently, seeing as a more sustainable paradigm entails behavioural changes (see Baker, 2016; Manolas, 2015; van Vugt et al., 2014), it requires every individual to identify and acknowledge the consequences and repercussions of their own actions. Blaming others for the state of the world implies rejecting individual responsibility. Therefore, it is difficult to indicate whether these sustainable ideas, values, beliefs and perceptions discovered from the interviews will result in any observable changes. Strong, sustainable opinions and values cannot alone make the world more sustainable nor can they present a new paradigm. For this, behaviour must change accordingly (Baker, 2016; Confaloneri et al., 2007; Lacy & Rutqvist, 2015). Thus, the pandemic imposed changes could represent a more sustainable paradigm (Baker, 2016; Dunlap et al., 2000), but whether the values expressed will actually lead to behavioural changes in line with such a paradigm is a question for future research on the topic.

It would be interesting for future research to find out what it is about the characteristics of how the Netherlands treated the covid-19 pandemic that were so effective in terms of how well major changes were received. Moreover, it would also be fruitful for future research to explore to what extent these values predict behaviour.

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APPENDIX A

OVERVIEW OF RESPONDENTS

NAME	AGE	GENDER	LEVEL OF EDUCATION	PLACE OF RESIDENCE	INTERNATIONAL BACKGROUND	OCCUPATION
T	22	Male	MBO	Dordrecht, Netherlands	Dutch	Helicopter Technician
M	23	Female	University	Alkmaar, Netherlands	Dutch	Waitress
FS	22	Male	HBO	Dordrecht, Netherlands	Dutch	N/A
KB	22	Male	University	Dordrecht, Netherlands	Dutch	Supermarket employee
L	24	Female	HBO	Waskemeer, Netherlands	Dutch	Photographer
D	23	Male	HBO	Zwijndrecht, Netherlands	Dutch	Artist
W	22	Male	HBO	Dordrecht, Netherlands	Dutch	Artist
V	23	Female	HBO	Rotterdam, Netherlands	Dutch	HR
KM	26	Male	HBO	Rotterdam, Netherlands	Dutch	Entrepreneur, Fruit leather
J	22	Male	HBO	Rotterdam, Netherlands	Dutch	Entrepreneur, logistics and trade
FW	32	Male	University	Utrecht, Netherlands	Dutch	Pilot, KLM
A	21	Female	HBO	Dordrecht, Netherlands	Dutch	Nutritionist
P	29	Male	University	Utrecht, Netherlands	Dutch	Entrepreneur, circular economy

<u>APPENDIX B</u>

INTERVIEW GUIDE

Please just say what comes to mind when I ask the questions. There are no right or wrong answers, I just want to get your honest thoughts. Please feel free to speak in Dutch or switch between Dutch and English. The important things is what you say, not how you say it.

Consent and demographics:

- *Can you please state your name, age and nationality?*

- *Do I have your permission to record this?*

- *Do I have your permission to use this interview for my research?*

- *Do you wish to stay anonymous?*

Explanation to them: *I am interested in finding out how the COVID-19 crisis change the environment. This is all I can tell you before we start, but after the interview you can ask if you have any more questions about what it will be used for.* The interview will take about 30 minutes.

Warm up:

How are you?

How is your family doing?

Where are you spending your quarantine? Why? (Can indicate how serious they take it)

Topics to cover:

- *What do you miss from the limitations of the corona crisis?*

- *Considering that the virus spread globally due to traveling, how do you feel about traveling now? Why?*

- *Has it changed the way you see things? How?*

- *Has the fact that the virus came from an animal changed how you see animals in general? And nature, more in general? How?*

- *Do you think that there is a link between the health of the environment/nature and the spread of viruses? If yes, how? What needs to change in the future? Do you think there is anything you personally could do different?*

- *How do you feel about being isolated? United or divided? How?*

- *The corona crisis was so sudden. What thoughts did you go through, from the beginning, when it was just a news about a virus in China, to now? (unpredictable environment) – future?*
- *Does the corona crisis make you think of previous crises that the world went through? Which ones?*
- *Do you think the corona crisis is similar or different to the climate change crisis? How?*
- *Do you think that the crisis will have a long-lasting impact on the environment? In what ways? Why?*
- *Do you think that modern societies (e.g. Netherlands) are more vulnerable after corona?*
- *Are there any positive impacts of covid?*
- *Is there something else related to what we talked about that you would like to add?*