Microcelebrity Activism within Civil Rights Movements

Explaining the impact of Greta Thunberg on supportive behaviour, risk perception and emotions towards climate change

Master Thesis Research in Public Administration and Organisational Science
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''No one is too small to make a difference.'' – Greta Thunberg

Abstract

This study examined the impact of microcelebrity Greta Thunberg on high school students' risk perception, supportive behaviour and emotional involvement towards climate change. To investigate this impact, a survey experiment was used with two test groups (i.e. text and video) to discover any significant effects of the brand. Participants (N=540) also had to sign a real-life climate petition as behavioural component of the experiment. Results show that students in the video group were significantly more willing to participate in supportive behaviour and more concerned about the risks of climate change than those in the control group. Student in the video group also had a 57% higher likelihood to sign the petition.

This empirical evidence reveals that microcelebrity activism can mobilise actors, which can help civil rights movements to address climate change on the political agenda and to sustain their own presence. In contrast to the literature (Smith & Leiserowitz, 2014; Eshuis & Klijn, 2012) that often assumes that brands evoke emotions, this study did not find any significant effects for negative emotions. It is presumed that Thunberg's brand uses 'negative' emotions (e.g. *anger*) to trigger a cognitive and behavioural response, instead of an emotional response.

Thesis summary

Civil rights movements increasingly use microcelebrity activism to address societal issues on the political agenda (Laaksonen et al., 2020). A microcelebrity activist is defined as a noninstitutional politically motivated actor who uses the media to engage in political processes (Tufekci, 2013). Recently, the most prominent microcelebrity in environmental activism has become youth climate activist Greta Thunberg. Thunberg emerged as a global representative spokeswoman after she began her solo 'Skolstrejk för klimatet' (School Strike for the Climate) in August 2018 to raise awareness for climate change (Abidin et al., 2020, p.14). Greta's message aims to panic society in order to make citizens more aware about the risks of climate change. This study argues that her 'catastrophic worldview' developed into a so-called ''T-brand'', that is imbued with negative emotions to increase citizens risk perception and supportive behaviour towards climate change (Finucane, 2008; Sjöberg, 2007).

Although Eshuis & Klijn (2012) have shown that governments increasingly use branding techniques to improve public policy, little is known about their effect on social movements. This led to the research question: *How Greta's T-brand influences high school students' risk perceptions, negative emotions and supportive behaviour towards climate change?* In order to investigate this impact, the study uses an online survey experiment with two test groups and one control group (C). As treatments, a text- (T1) and video- (T2) version of the branding campaign 'This Is Not a Drill' were used to measure Greta's impact. The control group (C) only filled in the survey and did not receive any treatment. A total of 540 students participated in the experiment and were divided evenly between the test groups (i.e. T1 = 176, T2 = 184, C = 180). Students were further asked to sign a *real-life petition* in order to add a 'behavioural component' to the experiment. This enabled measuring changes in attitude and behaviour.

The study found that students in the video group were significantly more willing to participate in *supportive behaviour* and were *more concerned about the risks of climate change* than those in the control group. Moreover, the binary logistic regression, indicated that students in the video group also had a significant 57% higher likelihood to sign the petition than those in the control group. This provides empirical evidence that microcelebrity activism can support social movements in addressing social issues on the political agenda and to ensure their own longevity by mobilising actors to engage in supportive behaviour.

Surprisingly there were no significant results found for emotional involvement, which is in contrast to the literature, that often assumes that brands can evoke emotions (Xie et al., 2019; Leiserowitz et al., 2012; Karens et al., 2016). This result is even more surprising, because Greta's brand is built upon negative feelings. It is therefore thought that Thunberg uses 'negative' emotions to trigger cognitive and behavioural change, instead of an emotional response. Furthermore, a profound reflection of the limitations and ethical boundaries of branding as governance strategy is described in the discussion. The study concludes with discussing its own limitations and provides recommendations for future research.

Table of contents

1 Introduction

Laaksonen et al. (2020) argue that civil rights movements increasingly use 'microcelebrity activism' to address societal issues on the political agenda via various media platforms. Tufekci (2013, p.850) defines microcelebrities as politically motivated noninstitutional actors who use their appearances in social media to engage in the political processes. Tufekci (2013, p.857) even coined the term 'networked microcelebrity activism' to describe the ways in which individual actors within social movements use their appearances to serve those particular movements. Marwick & Boyd (2011) argue that 'microcelebrity activists' carefully construct their self-presentation, however, ''since the identity of microcelebrity activists is constructed as *activists* first and foremost, the audience is seen not as fan but rather as political allies'' (p.14). ''Grassroots and more 'local' climate activists have risen to celebrity status in the recent years'' (Abidin et al., 2020, p.14). The most prominent archetype of this celebrity environmental activism has become youth climate activist Greta Thunberg. Thunberg emerged as a global representative spokeswoman after she began her solo 'Skolstrejk för klimatet' (School Strike for the Climate) in August 2018 and stopped her education to raise awareness for climate change (Abidin et al., 2020, p.14). The image of this school-striking teenager enacted a global chain reaction of climate activists whom begun to unite themselves in mass civil marches. Thunberg spoke directly towards the United Nations (UN), arguing that; ''leaders have failed us on climate change'' (BBC, 2019), and further publicly accusing governments of either neglect or failing to employ effective policies to mitigate the negative consequences of global warming. Her performance at the UN Climate Summit culminated Thunberg's image and the following quote illustrates her tone:

> ''How dare you. I shouldn't be up here. I should be back in school on the other side of the ocean, yet you all come to us young people for hope. How dare you? … You have stolen my dreams and my childhood with your empty words. We will be watching you.'' (Abidin et al., 2020, p.14)

What made her stand out was that Thunberg galvanised especially young people to engage in *supportive behaviour*. Her fame hinges upon her and her audiences' use of social media. As November 29, 2019, Thunberg has 3 million followers on Twitter and 2.7 million on Facebook (Abidin et al., 2020, p.15). Bennett & Segerberg (2013) and Milan (2015) therefore imply that in the current political landscape, the formation and mobilisation of actors cannot be understood without accounting for these political microcelebrities. This is why the emergence and impact of microcelebrity activism has gained ground in politics and political activism research (Laaksonen et al., 2020, p.177). Brands are often used to frame political processes because they evoke associations without providing great amounts of information (Eshuis & Klijn, 2012, p.96). This study argues that Thunberg's worldview developed into a so-called, ''*T-brand''*, in order to tackle climate change with a clear and fixed message (Laaksonen et al, 2020). A brand that is imbued with 'negative emotions' to panic society in order to make citizens *more aware* about their own eco footprint (i.e. wasteful behaviour) and the risks of climate change.

This reveals that eco movements in a response to climate change use branding strategies to address global warming on the political agenda. Eshuis & Klijn (2012, p.157) demonstrate that governments already use branding to improve support for their public policies, however, little is known about their effect on social movements. The literature often assumes that corporate

brands are effective, yet empirical evidence is still lacking on support for these claims, especially regarding brands in the public realm (Leiserowitz et al., 2012; Karens, et al., 2016, p.492). According to Thunberg her ‘’catastrophic brand’’ is the only way to survive as human species (Abidin et al., 2020). With this approach, Greta brought something vital to the climate discourse: *emotions.*

Smith & Leiserowitz (2014) explained that negative emotions, such as *fear* and *guilt* can contribute to *support for public policy* and *risk perception*. This study will further seek to investigate whether Thunberg has an emotional influence on how students relate towards climate change, because her brand is imbued with ‘negative’ emotions, such as *anger*, *guilt, and fear*. This study will therefore examine how *Greta’s T-brand* affects citizens’ *risks perception*, emotions and *supportive behaviour* towards climate change among high school students. It specifically selected high school students, because Thunberg galvanised so many young people to engage in climate activism. In this way the study aims to gain understanding how Greta’s peers relate to her alarming message. This led to the following research question:

How does Greta’s T-brand influence high school students’ risk perception, emotions and supportive behaviour towards climate change?

This research is critical for examining such an impact on citizens’ stance, emotions and supportive behaviour towards climate change, given it has not yet been investigated. The study uses an *online survey experiment* with randomised groups to empirically measure Greta’s impact upon high school students. To measure Greta’s impact, as an independent variable, the branding campaign ‘This Is Not a Drill’ is used, which is co-produced by Thunberg, George Monbiot and the Guardian (Guardian, 2019).

In ‘This Is Not a Drill’, Thunberg summarises her ideas on climate change, raises awareness, and attempts to activate citizens to take massive action. This video therefore offers an opportunity to statistically measure the campaign’s impact on citizens’ *risk perception*, *supportive behaviour* and *emotions*. It holds two test groups and one control group. The first test group received a text version of ‘This Is Not a Drill’ with no images, while the second group watched the original video. The control group did not receive any treatment in order to measure the effects of the treatments. For the analyses, a Multivariate Analysis of Variance (MANOVA) and subsequently three ANOVA’s were run to discover any significant differences between the experimental groups. To investigate whether *Greta’s T-brand* not only altered students’ *attitude*, but also changed their actual *behaviour*, participants further had to sign a ‘real-life’ climate petition.

This petition from *Oxfam Novib* demands that the Dutch government invests in an effective (inter)national climate strategy to protect developing countries from the negative consequences of climate change (Oxfamnovib.nl, 2020). The behavioural component was analysed using a *bivariate logistic regression*. In that way, the study aims to contribute to the literature by measuring the effect of a public brand on citizens’ orientation and behaviour.

1.1 | Scientific relevance

Branding received limited attention within the field of Public Administration because scholars have systematically downplayed the role of emotions in decision-making processes (Eshuis & Klijn, 2012, p.29). However, emotions are shown to play an important unconscious role in governance processes and in that way, 'branding' has something to offer to the field of governance theories (Teodoro & An, 2018, p.321). Previous studies that already inquired the concept of branding as public management tool, reveal that branding can improve organisational components such as *trust* and *support* (Teodoro & An, 2018; Karens et al., 2016; Smith & Leiserowitz, 2014). These studies found significant results for brands in different contexts. Teodoro and An (2018, p.321) illustrate that when US federal agencies show their 'names' in communication towards citizens, these 'names' shape citizens' *support* for governmental policies. This indicates that 'institutional' *names* have a meaningful potential to carry specific symbolic meaning. Further highlighting this, Karens et al. (2016, p.486) illuminate that including 'branding elements', such as the flag of the European Union – can significantly increase citizens' *trust* in concrete EU policies plans. The study examined the distinct effect of symbolism on citizens' trust in bureaucracies and found that when the *EU Commissions' logo* was included, this significantly increased citizens' trust. Respondents in 'branded' groups even scored 0.6 to 0.8 points higher on *trust* than control groups (measured on a 10-point scale). The data was collected among university students in three European countries.

While studies found that branding may improve *trust, support and engagement* for governmental policies (Piotrowski et al., 2019), there is little known whether brands can also stimulate these effects for civil movements (Therkelsen et al., 2010: 137). This thesis therefore first attempts to shed light on the impact of branding on risk perception, emotional involvement and supportive behaviour towards climate change. By widening the empirical scope on public branding this approach may enable the opportunity to make more robust statements about its effectiveness (Karens et al., 2016, p.492). A second direction of investigation aims to examine whether specific associations, that brands evoke, will actually mobilise citizens. This second goal helps to understand a deeper underlying behavioural question of public administration: If public branding is employed as governance strategy, will it change citizens' behaviour? The study attempts to answer this question by investigating whether *Greta's T-brand* can increase student's likelihood to sign a climate petition. From a methodological perspective, this *survey experiment* contributes to a field that mainly used case studies and classic surveys to investigate how 'brands' attribute meaning to society and influence perceptions.

Experiments are rather new in the field of Public Administration but provide a reliable and valid method of measuring the distinct effect of *Greta's T-brand* on changes in attitude and behaviour. The study therefore hopes to contribute to the academic body of literature surrounding branding as public management tool.

1.2 | Societal relevance

There are numerous practical reasons to research microcelebrity activism within civil rights movements, but why is this relevant to society and why should we investigate Thunberg in particular? Firstly, activism expert Ellen Middaugh (2019) argues that 2019 socio-political landscape, shares some very common features to that of the 1960's, where activists aim to persuade the authorities to focus on issues they would rather ignore. Myers et al. (2012) who meta-analysed the proportion of Americans indicating global warming as personally important to them, found that public support increased from 27 % in 1997 to 52 % in 2007 (Smith & Leiserowitz, 2014, p.937). However, 68% of Americans in 2007 said that the economy should be a top priority for the president and Congress (Smith & Leiserowitz, 2014, p.938).

Likewise, Leiserowitz et al. (2012) found that fewer than 12 % of Americans said they were ''very worried about global warming, an overall drop of 5 percentage points or more since 2008. Similar drops in public opinion have been identified in comparable internationally conducted surveys'' (Smith & Leiserowitz, 2014, p.937). Several hypotheses have been proposed to explain this period of increased scepticism, including *issue fatigue*, the global financial crisis in 2008 and decreased media attention (Leiserowitz et al., 2012). These national surveys show that global warming is still not a top priority among citizens.

While citizens continue to debate about the urgency of climate change, the *Intergovernmental Panel on Climate Change* (IPCC, 2019) stated that *human activities* have approximately caused 1.0 °C of global warming. Meaning that in the future the world faces a conceivable risk of rising sea levels, in addition to the already existing problems such as melting ice caps and increased wildfires (Hoegh-Guldberg et al., 2018). This study therefore has societal relevance, because it attempts to gain understanding whether microcelebrity activists who use branding strategies can increase citizens' *risk perception* and *support* for climate policies.

Furthermore, scientific institutions like the IPCC, dedicated to illuminate the world with objective scientific insights, increasingly face difficulties to persuade society about the risks of climate change (IPCC, 2019). The literature has shown that 'negative' emotions can cause greater risk perception towards societal issues (Leiserowitz et al., 2012). This study therefore contributes to those institutions that fight climate change by providing empirical evidence whether *Greta's T-brand* can enhance their persuasive power. On the one hand, by showing that brands can convince citizens about threats of climate change, and on the other hand by mobilising them to sign socio-political petitions. In a broader sense, this study provides empirical insights whether eco movements could use *branding strategies* to ensure their longevity. Much of the literature on social movements focusses on their emergence in society, but only a few studies focused on their survival (Nownes & Lipinski, 2005; Bert Fraussen, 2013; Walker & McCarthy, 2010). Bert Fraussen (2013) for instance, argues that governments have a crucial role in the survival and maintenance of civil rights movements. This study may contribute to those works, by showing whether public brands can mobilise citizens' willingness to engage in socio-political organisations.

However, it remains questionable to what extent branding citizens is ethically responsible. In reflection upon this question, Piotrowski et al. (2019, p.1007) argue that governments need to be transparent about their actions in order to be accountable. Likewise, civil rights movements need to assure their accountability when they decide to use microcelebrity activists to achieve their goals. The final chapter in this thesis therefore pays attention to some ethical boundaries and limitations of branding.

2 Theoretical Framework

This theoretical framework reviews the most important concepts from the research question. It therefore operationalises branding as public management tool and its relations with risk perception, emotions and supportive behaviour. It further provides a theoretical model to describe how *Greta's T-brand* influences these concepts.

2.1 | Theorising Branding

Branding has gained much scholarly attention for its perceived capacity to influence perceptions, however, little agreement has been reached over its precise nature and purpose (Kavaratzis & Kalandides, 2015). Brands are complex phenomena that are approached in numerous ways (Batey, 2008). As Braun (2011) notes, the considerable confusion around branding stems from the lack of clear conceptualisations within the mainstream marketing studies. Klijn & Stevens (2020) argue that branding over time, during multiple encounters, begin to develop connections between neurons, which develop into a wider web of associations in the brain towards a particular brand. These neurons store certain sounds, visual impressions, or words and become reinforced every time they interact with the brand.

These mental associations are significant in their way to create meaning and are therefore anything but static. For example, the name 'Milan', evokes a rather clean concept in our heads, though the 'place' Milan, is imbued with meaning and has dramatically changed over time (Kavaratzis & Kalandides, 2015, p.1371). 'Essentially, what is Milan? Some view it as a shopping opportunity that attracts more tourists than locals, while others might think about its historic centre or link it to everything Italian, such as the food and style' (*ibid*). Every person could have an entirely different understanding of the same concept. Even the same person could now think about Milan as 'historic city' and tomorrow as 'shopping spree', or both.

Kavaratzis & Kalandides (2015, p. 1368) dive deeper into this complexity and take the current understanding of branding further by going beyond associations and add a missing ingredient: *the interactions between those associations*. Kavaratzis & Kalandides (2015) argue that brands are in a constant state of change because they interact with other brands in complementary and conflicting ways. Brands elicit meaning ''through associations that are internalised and developed via a complex and ongoing process of interactions between these associations'' (Kavaratzis & Kalandides, 2015, p.1375).

Likewise, Teodoro & An (2018, p.324) explain that these associations interact to form a 'greater or lesser favourability of a branded object. Brands can thus shape interactions that benefit favourable or unfavourable attitudes to an object. These constantly changing interactions shape the brand associations and its meaning (Merrilees et al., 2012, p.1036). This led to the idea that brands can be interpreted differently. In line with this, Eshuis & Klijn (2012, p.31) imply that branding is as an 'interactive process' in which actors empower an object to foster its revenues and capacities. More recently, marketing studies therefore focus on *stakeholder theories* that emphasise on participatory processes in which actors rely on each other to build supported brands (Merrilees et al, 2012, p. 1035).

Merrilees et al., (2012) however argue that different *external stakeholders* often lead to different brand meanings. Each stakeholder applies their own filter to interpret the meaning of a brand. Further highlighting this, Lucarelli and Berg (2011) who meta-analysed 217 journals regarding *place-branding* between 1988-2009, found that stakeholders often have individual and competing interests when they collaborate with others.

What is revealed from these cases, is that *brands*: (1) co-evolve with existing perceptions and (2) are subject to (re)interpretations by various actors who may have competing views on the brand (Eshuis & Klijn, 2012, p.53). But there is a difference between how branding is used in the public and private sphere. While branding different meanings is not necessarily problematic in the private sector, the public sector cannot jeopardise or neglect specific interest groups and overemphasise others. This complexity reveals, that branding in the public sphere is even more complex, and because *Greta's T-brand* belongs to the public realm, the next section will define the use of public brands more in depth.

2.1.1 | Defining Public Brands

In general, the literature distinguishes five major categories of branding: *place-, process-, goods-, personal- and organisational branding* (Balmer, 2006; Kotler et al., 1999). Within the private sector, brands, are mostly used to increase the revenues of goods and services. *Tesla* and *BMW*, for instance, evoke associations of 'high quality' and 'achievement', which in turn partly determine their value towards a customer (Eshuis & Klijn, 2012, p.16). Branding in governance activities however is less visual, for example public policies not always have a specified logo to brand (*ibid*). Governments however eagerly use branding strategies to improve public policy. In public policy brands are used to: (1) incrementally frame and manage policy problems and solutions; (2) activate and bind actors to governance processes, and (3) communicate with the broader environment via (social) media (Eshuis & Klijn, 2012). Likewise, political leaders use brands to deliver a specific message and to enhance their popularity among voters. Often resulting in multiple media encounters to develop a specific association which will reinforce their visibility (Klijn & Stevens, 2020).

It remains very complex, if not impossible, to define a public brand that appeals to everyone in society. Illia and Lurati (2006) however argue that brands in the public sphere still engage very little with recent stakeholder theories. This is why the authors argue that public brands generally lead to a *mismatch* between the developers and users (i.e. citizens). To become effective, public brands at least require an appropriated *names, suitable logos and slogans* in order to reinforce their messages and to signify their logos (Danesi, 2006; Eshuis & Klijn, 2012, p.70). One holistic way to define a brand in governance processes, is:

*''*A symbolic construct that consists of a *name, term, sign, symbol or design*, or combination of these, *intended* to identify *a phenomenon* and differentiate it from similar phenomena by adding *particular meaning* to it'' (Eshuis & Klijn, 2012, p.19).

This definition is practically useful for three reasons: (1) it specifies a 'branded object' with concrete examples, stating its multi-physical endeavour, (2) it includes the 'intentional' component to identify or differentiate a phenomenon from similar phenomena, and (3) it argues that branding 'adds meaning' to a branded object, emphasising its symbolical value.

To conclude public branding involves much more complexity than is commonly thought and to overcome this challenge, Zenker & Braun (2017, p.275) argue that profound brand knowledge is key to determine 'which brand is right for who' in society. Brands might hope to send one particular message, but still depend upon the interactions with competing brands and how actors will interpret them (Klijn & Stevens, 2020). Obviously, different stakeholders have different values, based upon various worldviews. But the fact that brands are experienced, co-produced, and interpreted differently, makes them incredibly hard to manage. Microcelebrity activists aim to tackle this struggle by carefully constructing their self-presentation to organise wider support (Zenker & Braun, 2017, p.281). However, full support is very unlikely as there will always be opposition among those who do not feel represented. The following sections will discuss how brands can influence perceptions, emotions, mobilise and bind citizens.

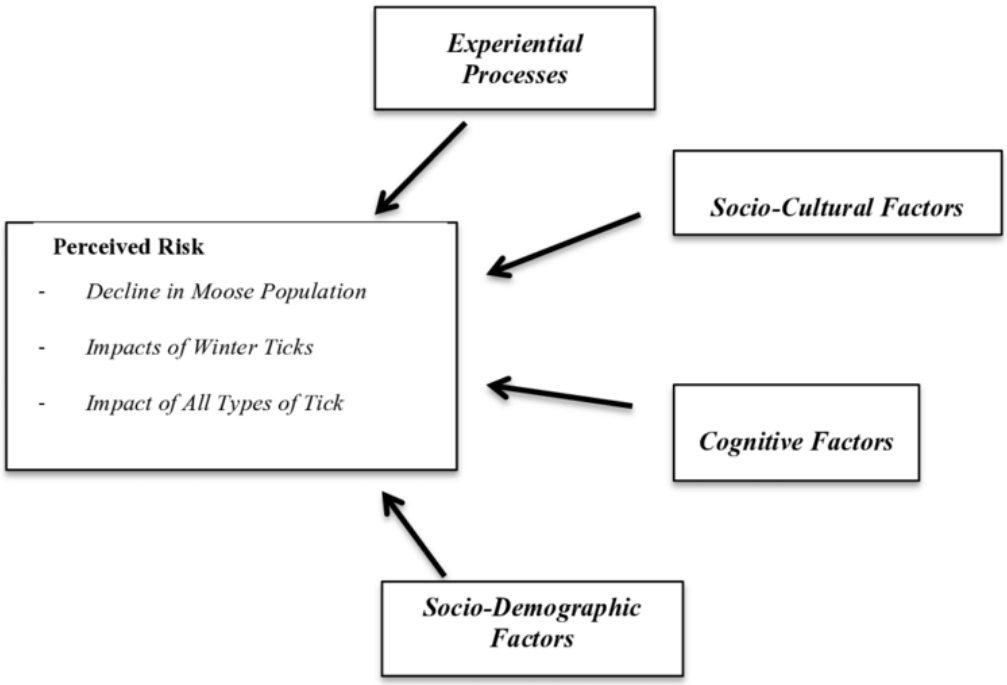
2.2 | Brand Assets

Branding activities can influence risk perceptions, emotions and supportive behaviour (i.e. mobilising and binding actors) in various ways. The following sections operationalise these concepts and explain how brands can influence them (Eshuis & Klijn, 2012, p.40).

2.2.1 | Brands Influencing Risk Perceptions

Before we can understand how brands influence risk perception, the study first operationalises how climate risk perception is measured. According to Xie et al. (2019) climate change risk perceptions does not only vary over time, but also between countries and between people in the same countries (Lee et al., 2012; Leiserowitz et al., 2012). Previous studies on risk assessment demonstrate that ''greater risk perception predicts greater behavioural intention, while other studies point out that perceived barriers to action (e.g. high financial cost, competing motives) can disrupt the oft-assumed pathway between risks perception and behaviour'' (Xie et al., 2019, p.3). Bubeck & Aerts (2012) for example argue that risk perception for rising see levels does not necessarily leads to flood mitigation behaviour. They further imply that mitigation behaviour depends upon *response efficacy*, i.e. the belief that mitigative behaviour will be effective and *self-efficacy*, i.e. the belief that citizens themselves can contribute to this behaviour (Xie et al., 2019, p.3).

Risk perception and supportive behaviour (i.e. mobilising and binding actors to action) are thus not identical constructs and it is important to examine them separately. Therefore, studies focused on the development of predictors to measure *risk perceptions*. Van der Linden (2015) provided an overarching theoretical framework (i.e. the CCRPM model) in which four key predictors measure risk perception: *socio-demographic, cognitive, experiential and socio-cultural* factors. The adopted CCRPM *Model 1* by Van der Linden is shown below.



Adopted model 1 by Van der Linden (2015)

This model does not assume that those factors are independent, for example, cognitive and socio-cultural factors can interact with each other and shape perception in a particular way. The first concept, '*cognitive* factors', measure the extent to which individuals comprehend the cause, impact, and effective responses to climate change. These cognitive factors are necessary to understand whether participants know what climate change is about, which is seen as a prerequisite to indicate its risks (Xie et al., 2019, p.2). The second factor, '*socio demographic* characteristics*',* include gender, party affiliation and level of education into the model. Third are '*experiential factors'* that include personal and societal experiences of climate change affects. These help to gain understanding how much individuals can relate to the negative consequences of climate change. Fourth, are the '*socio-cultural* factors' that aim to measure the extent to which norms affect individuals to address climate change or expect that others will. This fourth dimension therefore captures the importance of *social influences* – such as social norms that turn public risk perception into personal risk perception (Xie et al., 2019, p.2). This enables Van der Linden (2015) to distinguish societal risk perception, from personal risk perception. Brands cannot work on every dimension of Van der Linden (2015), such socio-demographic factors and socio-cultural factors. However, brands can steer cognitive and experiential factors in a desired direction.

Brands unconsciously evoke associations and aim to communicate these associations via visual images. Thunberg uses a classic catastrophic worldview brand to arouse associations of fear and destruction in order to address climate change on the political agenda. A catastrophic brand is strong, because people already have particular associations with natural disasters, such providing aid to those who are in need of help (Eshuis & Klijn, 2012, p.45).

The link between branding and risk perception lays in the way how brands can seduce citizens to engage instead of forcing them to undertake action (Eshuis & Klijn, 2012, p.55).

Likewise, President Bush rebranded his leadership after the terrorist attacks on 9/11. He changed his military foreign policies, launched a 'War on Terror' and positioned himself as a strong and determined leader (Bennett, 2009; Lees-Marshment, 2009). Although lots of people still doubted whether there was a credible link between *Al-Qaeda* and the regime of *Saddam Hussein (ibid)*, this branding campaign legitimised military actions in Iraq. Suddenly, this branding campaign had changed the public perception and established a political post and pre 9/11 world. In line with Bush, *Greta's T-brand* aims to convince her audience that citizens should now support climate policies in order to prevent any threats of climate change. Therefore, her brand uses catastrophic images of melting ice caps, wildfires and severe weather to evoke its 'end of the world'- association.

In addition, *Greta's T-brand* contains three key elements that help to convince her audience: *a desirable situation* (i.e. if we act now, we can still fix climate change) *the context* (our climate is breaking down); *and the link between a desired and contextual situation constructed as a gap that should not exist* (if we do nothing, our climate will breakdown) *(*Edelman, 1988, p.18*)*. Together these concepts help Thunberg to construct the 'social reality' of her audience. This reveals that brands can convince 'those' who do not view climate change 'as a problem' (Eshuis & Klijn, 2012, p.39). It further shows that brands to some extent can shape the social reality via associations.

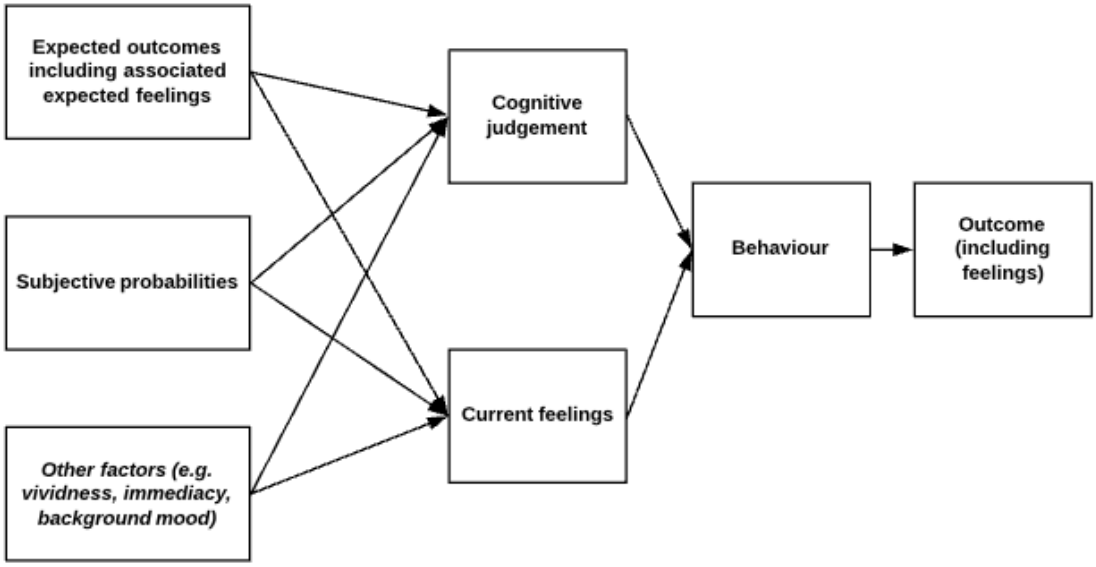
As shown earlier, brands carry a potential influence to incrementally change and frame value patterns. In that way brands could in theory also change risk perceptions if they arouse the right associations by convincing those who do not perceive climate change as risk. Exactly this led to the first assumption that brands can influence risk perception. This thesis suggests that *Greta's T-brand* will influence *students' risk perception* on climate change, because her brand contains subtle and intended ways to change citizens' perception. This led to the first hypothesis:

H1: Greta's T-brand will influence students' risk perception of climate change

2.2.2 | Brands Influencing Emotions

Studies have shown a range of factors that influence public responses to risks and hazards, including the above mentioned 'risk as analysis' model by Van der Linden (2015). Models like the CCRPM by Van der Linden (2015) focus on the use of 'cognitive deliberation' to assess risk, however others argue that citizens not always understand risk information (Smith & Leiserowitz, 2014, p.938). Others, therefore, focus on 'risk as feelings', arguing that people often rely more on *emotions* than on cognition (Loewenstein et al., 2001; Slovic & Peters, 2006; Finucane, 2008). Emotions enable citizens to make daily decisions, and influence behaviour, with relatively little cognitive effort by automatic responses, such as a 'being hungry' which remembers you to eat. Other emotions, like stress and worry can affect your productivity (Loewenstein, et al., 2001). The content and function of emotions have gained much scholarly attention, which led to well-established definitions and conceptualisations of emotions.

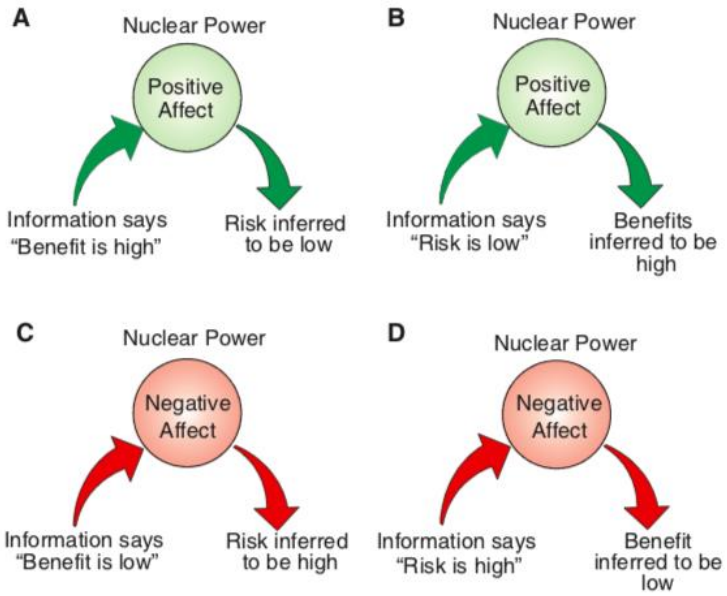
Forgas (1992) defines emotions as 'complex, subtle, short-lived and intense feelings' that can drive behaviour. A comprehensive overview is beyond the scope of this thesis, but it is important to distinguish between how *emotions* and *cognition* influence behaviour and the way how citizens perceive and judge risks (Smith & Leiserowitz, 2014, p.938). The adopted *Model 2* from Loewenstein et al., (2001) shows how 'risk as feelings' influence behaviour.



Adopted Model 2 by Loewenstein et al., (2001)

Likewise, another model by Slovic & Peters (2006) shows that information about benefits (A) or information about risks (B) could increase the positive 'affective evaluation' of nuclear power. Similarly, information (as in C & D) could make the overall affective evaluation more negative. The adopted *Model 3* from Slovic & Peters (2006), is shown down below. But do emotions also influence how people respond to global warming and if so, which emotions? According to Smith & Leiserowitz (2014) who investigated how well discrete emotions predict public policy support compared to other known drivers such as socio-demographic and political background characteristics, they do. They found that emotions are 'strongly associated with risk perception and policy support for a wide range of issues, including global warming' (Smith & Leiserowitz, 2014, p.938). Leiserowitz et al. (2012) further argue that negative feelings such as *anger* and *fear*, motivate citizens to be on a 'high-alert' state in which they seek for more information about an issue, which could lead to greater risk perceptions and more policy support (Leiserowitz, 2012, p.1107).

Moreover, the work of Sjöberg (2007) provided evidence that *fear, anger and worry* influence public risk perception. *Fear* tends to play an important role in risk perception towards a wide range of public issues, including radiation and flood fear (Smith & Leiserowitz, 2014, p.938). Next to Sjöberg (2007), the work of Finucane (2008) is relevant to this study who argues that 'negative emotions' are important determinants of risk perception because they can motivate a deeper information processing. Meijnders et al. (2001) who examined the interactions between emotions and argument strength, found that 'greater *fear* of climate change was associated with greater systematic processing of information about energy-related behaviour' (Smith & Leiserowitz, 2014, p.938).



Adopted Model 3 by Slovic & Peters (2006)

Beyond the powerful impact of negative emotions, positive emotions, can also have important effects upon risk perception. Höijer (2010) who examined how the Swedish media communicated emotions regarding global warming, found that ''hope'' and ''compassion'' were used as 'emotional anchors' to help citizens understand the impact of climate change (Smith & Leiserowitz, 2014, p.939). She explains that many people not only view hazards as something to avoid but also want to learn more about hazards of climate change if brands use a 'positive' communication strategy. Interestingly, Smith & Leiserowitz (2014) argue that people 'view climate change as a relatively abstract and distant threat, therefore climate communicators are challenged to increase both the sense of threat while also increasing the sense of personal and collective efficacy' (2014, p.944). They found that positive emotions, appear to have a positive effect on support for climate policies, and further show that ''worry'' is their strongest predictor to increase public support for policies that mitigate the negative effects of climate change. 'It is a sustainable and constructive emotions, whereas ''fear'' is an intense emotion that is typically perceived as an immediate threat and primes the body to take immediate action' (Smith & Leiserowitz, 2014, p.939). Brands that carry emotions can thus shape perceptions and emotions.

Greta's T-brand is imbued with emotions such as *anger, guilt,* and *fear*. This could mean that Thunberg uses these negative emotions to convince citizens about the urgency of climate change, because they process information more carefully when negative moods are aroused. Based on the literature it is therefore assumed that *Greta's T-brand* will evoke a negative emotional involvement towards climate change. This led to the second hypothesis:

H2: Greta's T-brand will influence students' negative emotions towards climate change

Negative emotions

This study specifically inquires four emotions, which align with Greta's branding campaign including: *worry, hopelessness, anger and guilt.* According to Giddens (1991: 67), *guilt* is 'Concerned with discrete acts related to the violation of codes or taboos'. Höijer (2010) argues that guilt is a 'socially constructed emotion, and concerns feelings of wrongdoing or transgression of what is, at a certain time, considered morally correct behaviour in a society' (p.723). Both *hopelessness* and *anger*, are negative emotions, generated by thoughts that bad things may happen in the future, but anger can cause a more immediate psychological reaction that is more intense and short-lived. Angry people often suffer from an increased heart rate, perspiration and a dry mouth. It could also lead to aggressive outbursts and pathological anxieties (Power & Dagleish, 1997). Another negative emotion is *worry*. Different than frightened people, worried people feel much longer anxious feelings based upon a sustainable feeling of stress (Höjer, 2010, p.721). The following paragraph discusses how brands can mobilise and bind actors more in-depth.

2.2.3 | Brands Mobilising and Binding Actors

It has become clear that brands can raise attention to policy content and processes, but they can also mobilise actors and bind them to governance processes (Eshuis & Klijn, 2012, p.65). This section aims to understand how this binding and activating process works. According to Eshuis & Klijn (2012, p.69) branding processes aim to engage actors by seducing them to become active. Eshuis & Klijn (2012, p.69) distinguish between 'one-off' and 'prolonged' forms of binding and activating actors. *Table 1* shows the various possibilities how brands can activate and bind actors on an individual and network level.

Both binding and activating occur on an individual and network level, however brands not necessarily evoke the same association towards various stakeholders. *Activation* involves voting for a political party or becoming involved in governance processes, such as supporting climate activism or engaging in climate movements. *Binding* is cultivated through individuals and groups who identify themselves to a brand identity (Eshuis & Klijn, 2012, p.73). People will begin to develop and expand their relations with the brand when they can identify with its underlying concepts. Brands therefore embrace the principle of Nicolas Rose (1999): *Advanced Liberal Governance* – they do not say: ''*You Must!''* but *''You May!''* to respect the freedom of consumers (Arvidsson, 2006, p.8).Effective brands are therefore able to establish different meanings to various actor groups. In order to achieve this, brands must balance between 'being ambiguous enough' to absorb different opinions and 'being concrete enough' to fulfil the values of various stakeholders (Hankinson, 2004).

Table 1. Branding in Governance Networks

	Actor Level	*Network Level*
Activating	**Actor activation** Single actors are activated because the brand triggers certain emotions and because actors are attracted by the ideas and values of the brand.	**Network activation** Brand can activate multiple actors in a network at the same time, or even activate a network as a whole. Such activation reproduces the network and adds to its viability.
Binding	**Actor loyalty** Single actors feel attached to the brand and the values behind it. They may build a relationship with the brand and support it over a prolonged period of time.	**Network loyalty** A network of people feels bound by their shared interests in a particular brand. They feel a relationship because they support the same brand. Thus, a network of actors is loyal to the brand, and this also creates loyalty among the actors themselves since they develop a feeling of connectedness and having a mutual relationship cantered around the brand (and contributing to it and the network).

Adopted from (Eshuis & Klijn, 2012, p.70)

In that sense, brands are never finished. Developers continuously shape brands via consumers' experiences and implement their wishes in order to obtain brand development. Nowadays, companies such as *Facebook* and *Google* increasingly use 'micro-targeting' techniques to determine which advertisements will receive the highest revenues. Next to this consumer-based branding, brands also function as 'vehicles' that maintain and bind relationships between (loyal) actors (Eshuis & Klijn, 2012, p.75).

Klijn & Stevens (2020) imply that binding branding strategies can turn citizens into *co-producers*. They distinguish three forms of 'brand co-production', which differ in the amount of citizens involvement in the co-productive activity: (1) citizens as brand communicators, (2) citizens as brand adaptors, and (3) citizens as brand initiators. The more 'active' these citizens become in developing a brand, the more loyal a brand community becomes. Muniz & O'Guinn (2001) further argue that when loyalty and trust grow, these concepts will reinforce engagement among its participants inside a network.

This applies to Greta's brand community as well in which activists begin to organise mass civil marches and start to obey to rules and values that exist inside these eco networks. Greta's global movement thus already operates on a network level that involves loyal activists who can identify with its core values and feel represented by the network.

They feel *mobilised* to attend in civil marches, which shows that there is a mutual relationship between these eco activists and the network (Muniz & O'Guinn, 2001, p.412). Moreover, her network is expanding. Activists internalise Greta's rules and values, that bind, and activate them, if necessary, to her global movement. Based upon these insights that brands can mobilise and bind citizens to a network, the study assumes that *Greta's T-brand* will influence students' supportive behaviour towards an eco-friendly attitude. This leads to the third hypothesis:

H3: Greta's T-brand will influence students' supportive behaviour towards climate change

Puto & Wells (1984) argue that transformational messages focus on images, visual and emotional components to enhance user experiences (Piotrowski et al., 2019, p.1009). In addition, Piotrowski et al. (2019, p.1005) elucidate the notion that 'unengaged' citizens respond more favourably to policies when information is couched in these *transformational message strategies* (i.e. using visual brands). On the other hand, they show that 'engaged' citizens were shown to be better served with informational strategies (i.e. using textual brands). Piotrowski et al. (2019) therefore conclude that only disclosing information is insufficient to reach the broader group of unengaged citizens. In line with Piotrowski et al. (2019) it is therefore assumed that students in the video group, will be more supportive than those in text group towards climate change, because visuals could activate a broader group. This leads to the fourth hypothesis:

H4: Students in the video group will be more supportive towards climate than those in the text group.

Finally, the experiment not only inquires students' attitude and emotions towards climate change, but also investigates *mobilised* action. In the final question, participants can decide to sign a 'real' climate-petition on an existing climate website. Afterwards, they were asked whether they signed or did not sign the petition. This behavioural component offers the opportunity to indicate whether *Greta's T-brand* can mobilise students to take action.
It is assumed that students in the video and text group will be more likely to sign the petition than students in the control group, based upon Greta's ability to galvanise and activate so many young people to engage in climate supportive behaviour. This leads to the fifth hypothesis:

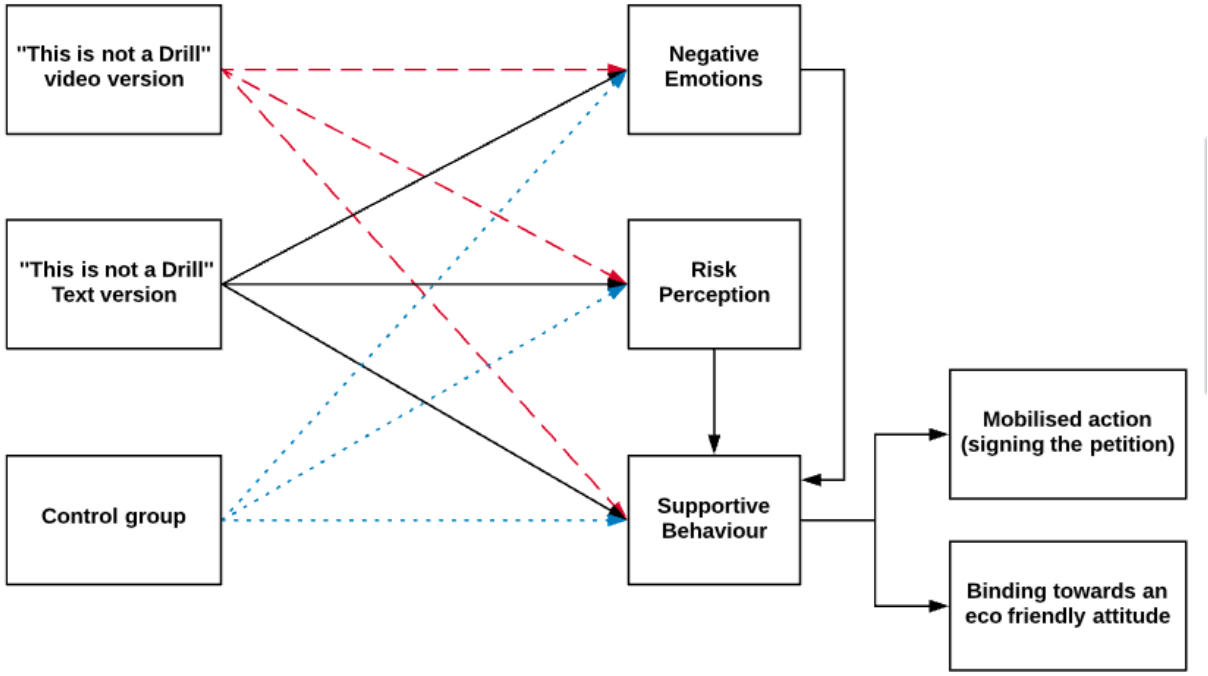
H5: Greta's T-brand will influence students' likelihood to sign the petition

2.3 | Theoretical model

The underlying theoretical model shows how the various dependent (i.e. risk perception, negative emotions, and supportive behaviour) and independent variable (i.e. *Greta's T-brand* measured in 'This Is Not a Drill') relate to each other. It expects that the independent variable will have an effect on every dependent outcome, however, it does not expect a particular direction. This is because Thunberg's public appearance received lots of critique as well. In that way it shows that her brand could either stimulate or decrease students' risk perception, emotional and behavioural willingness towards climate change.

The two extra arrows between negative risk perception and supportive behaviour, and between negative emotions and supportive behaviour are based upon the literature that negative emotions and risk perception are strongly associated to increase behavioural willingness to a wide range of societal issues (Leiserowitz, et al., 2012; Finucane, 2008; Sjöberg, 2007). The relations between the dependent variables are later tested via a multiple regression analysis. Supportive behaviour is further operationalised into 'mobilised action', i.e. signing the petition which relates to the behavioural component in this survey experiment, and binding to eco-friendly attitudes which is measured on the 'supportive behaviour scale'. Together they measure the extent to which individuals express behavioural willingness to engage in supportive actions.

Theoretical Model



3 Methods

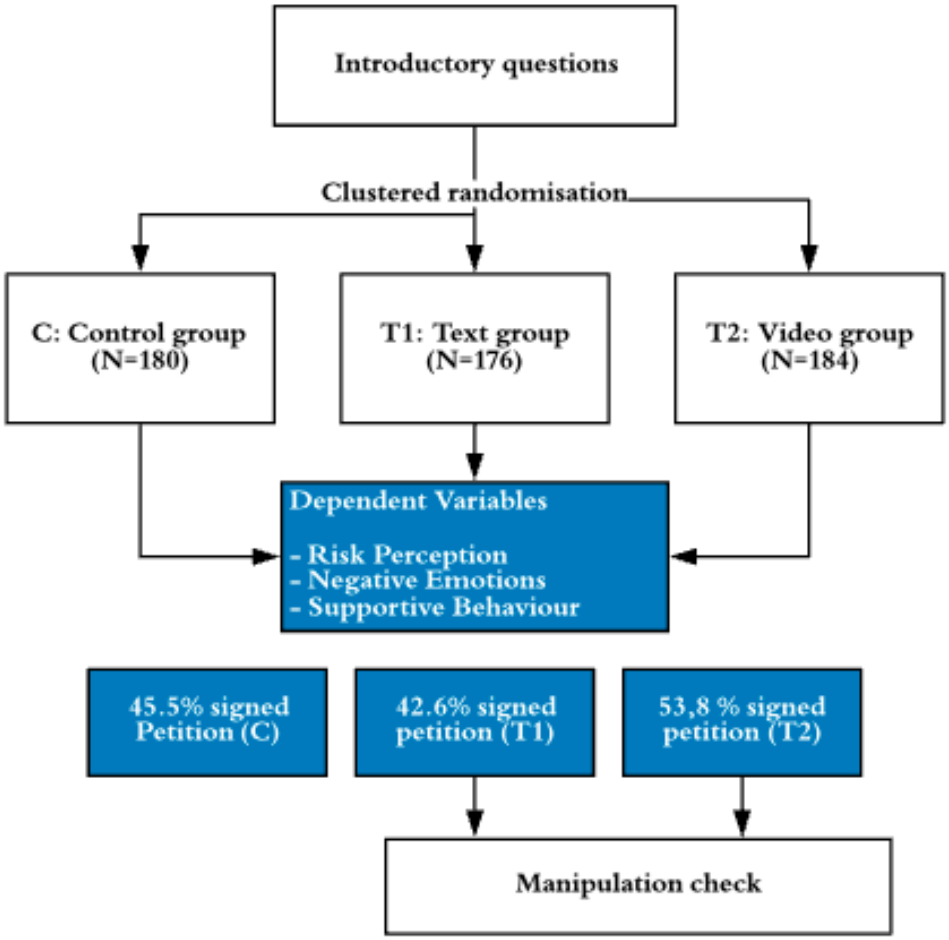
3.1 | Empirical context

To investigate whether *Greta's T-brand* has an impact on high school students' risk perception, negative emotions and supportive behaviour towards climate change, an online survey experiment design was used with two treatment groups and one control group. Initially this study aimed to conduct a field experiment, to treat the students as much as possible in their natural and authentic environment, to measure even more realistic outcomes (Levitt & List, 2007; Larsen & Olsen, 2019). However, due to Covid-19, the study had to change its design to an online survey experiment. This experimental character still entails that participants are randomly allocated to different treatment conditions (i.e. test or control group) in order to compare the outcomes.

Normally, the high controlled environment of a laboratory setting enables the researcher to partially control for exogenous and endogenous variables. A laboratory experimental design is therefore an ideal condition to identify causal relations (Lyengar, 2011; Levitt & List, 2007). This survey experiment is therefore contrasted with a conventional laboratory experiment that usually has an artificial setting. By using *real-world* features and randomisation techniques this design aims to provide a distinctive contribution to public administration research. The survey experiment strives to assess this theoretical gap in an online setting and its design enables the researcher to make causal inferences (Levitt & List, 2007; Larsen & Olsen, 2019). But controlling these contextual conditions in an online survey experiment is more problematic than in a conventional laboratory experiment (Levitt & List, 2007*)*. This is because the researcher is not able to control who is filling in the questionnaire.

To guarantee *internal validity*, high school students were clustered into three randomly assigned groups as is illustrated by the research design model below. This included experimental groups T1 and T2 and control group C, following a classic experimental design (Bryman, 2012, p.51). Group T2 watched the original version of ''This Is Not a Drill'' prior to their survey, whereas T1 received a text version of this branding footage. Group C was used as control group and did not receive any treatment. Creating these three groups is what forms the experimental manipulation and is therefore seen as the *independent variable* – in this case, *Greta's T-brand* (Bryman, 2012, p.52).

The dependent variables – students' risk perception, negative emotions and supportive behaviour are measured through the survey. To assess whether these concepts were affected by Greta's T-brand, multiple statistical analyses were conducted to compare the groups (Field, 2013). The independent variable (i.e. *Greta's T-brand*) is defined as adding a branding element in an informational and transformational way to trigger citizens' stance, emotions and engagement towards climate change.



Research Design Model

3.2 | Data collection

The survey was administered online between March and May 2020 and took about 5 to 10 minutes to complete. Respondents were assured that their responses remained anonymous. At first the total population was aimed at 300, but the response nearly reached 600 participants. After excluding unfinished cases, 540 students completed the survey, equally divided over the various groups (i.e. T1=176, T2 =184, C =180). The data set (N=540) involved a nationwide sample of high school students enrolled in *societal classes* within the Netherlands (Van der Linden, 2015, p.117). The Qualtrics survey was systematically distributed over the sample-population via approximately 40 'societal class' teachers that were randomly selected via LinkedIn. Furthermore, the researcher controlled for biases between classes of the same school via a method called – *parallel testing* – to prevent that students started communicating with each other about the experiment. This required that multiple classrooms at once were measured, which was practically possible via the web survey. The survey was available for those respondents who visited the website at which the questionnaire was online accessible (Bryman, 2012, p.671). The societal teachers promised to ask their students to fill in the survey during their lectures, simultaneously, and then shared the link with their students. In addition, the researcher wrote an introduction text to explain the purpose and requirements of the survey.

The advantage of a *Web survey* over an e-mail survey, is the much wider variety of options in terms of appearance and lay-out. This questionnaire used the standardised 'Utrecht University' style to assure its professionality. Other advantages of a Web Survey are its option to randomly assign respondents to different groups and its option to automatically download the data into SPSS. The survey further relied upon self-completion, which requires that respondents read and answers each question themselves (Bryman, 2012, p.233). A self-administered survey is therefore easier to distribute in very large quantities at the same time (Bryman, 2012, p.233). In addition, this strategy minimised the role of the researcher during the experiment as much as possible.

However, the fact that no one was available to assist respondents facing difficulties to answer the questions, could have led to survey break off and ambivalence. Another disadvantage of a *Web Survey* is the unknown factor who is actually answering the questions (Bryman, 2012, p.234). To finish the survey, respondents had to answer all questions in order to prevent missing data, but every question included the option: *I do not know*. The *external validity* was controlled via a randomiser in Qualtrics that evenly divided students to one of the three groups (Bryman, 2012, p.193). Furthermore, various background and control questions were asked to compare the outcomes between the treatment and control groups.

3.2.1 | Sampling strategy

This study used a multi-stage cluster sampling strategy. Clustered randomisation involves that treatments are given to randomly assigned groups rather than to individuals, which suits the societal *classroom-design* (Bryman, 2012, p.193). This is a probability sampling strategy using a known 'probability' number, which means that every respondent has an 'equally' random chance to be selected in one of these groups. *Randomisation* further guards against any biases caused by differences in background characteristics and knowledge.

Randomly assigning treatments thus means that various backgrounds characteristics and substantive knowledge are 'randomly distributed' across control and treatment groups (Teodoro & An, 2018, p.329). In addition, clustering respondents in high school 'classrooms', provided the advantage that most characteristics were already more or less equally divided. This is because 'societal class' is mandatory to all students, which balanced the amount of alpha and beta students in the survey. It further included students from various levels of education throughout multiple middle schools in the Netherlands. The reason why probability sampling is such an important procedure in social survey research, is the possibility to make inferences from a random sample to the entire population from which it was selected (Bryman, 2012, p.195). This data collection method enables the opportunity to generalise findings derived from a sample to a population. This does not mean that sample- and population data are the same and should be treated that way, but it means that one can estimate the *population-mean* while using mean-scores of a sample (Bryman, 2012, p.196). However, the survey still depends upon its validity and the items that make up the various scales. Another risk is respondents bias, which relates to issues whether subjects are being truthful or not. *Random measurement errors* are therefore related to *external validity*, because they may influence the effect sizes and correlations between variables.

Hence, these could lead to a type I error, when a researcher incorrectly rejects the null hypothesis when it should be confirmed (Bryman, 2012, p.349). An experimental design attempts to minimise these random errors by controlling exogenous and endogenous factors. However, it is impossible that no errors will occur within a data set.

3.2.2 | Reliability and Validity

Reliability is grounded upon the idea that the *observed score* (X) in the sample equals the *true score* (T) of the population with an additional *random measurement error* (E). Therefore, X = T + E (Devellis, 2007, p.53). Reliability is thus concerned with the question whether the results of a study are repeatable (Bryman, 2012, p.46). Reliability refers to how consist one measures a concept. A common method to measure the intensity of values about climate change, is the *Likert Scale*. This scale is a multiple indicator of a set of attitudes relating to a particular area (Bryman, 2012, p.166). It usually comprises a series of statements and each respondent is then asked to indicate to what extent they (dis)agree with them. It is important that items relate to the same object and together make up an interrelated scale (i.e. have a high *internal reliability*). This refers to whether items of the same scale measure the same concept. Items that do not relate to the same concept, lack in coherence and usually have a low Cronbach's alpha (Bryman, 2012, p.170). Cronbach's alpha is the most used test for internal reliability. It essentially calculates the average of every possible split-half reliability coefficient. Computed alphas usually vary between 0 (denoting no internal validity) and 1 (denoting perfect internal validity). A Cronbach's alpha coefficient from 0.70 or higher implies an acceptable level of internal reliability (Bryman, 2012, p.170).

Experiments usually have a low external validity, because the study takes place in an artificial environment (Karens, et al, 2016, p.489). Thus, it becomes hard to generalise any findings from this study beyond its specific research context (Bryman, 2012, p.47). However, the *internal validity* in experiments is generally considered to be high, because the researcher is able to control many aspects of the population and data collection process. Data is generated by manipulating the independent variable among participants, while controlling for other possible interfering variables, to measure its outcomes (Malhotra & Birks, 2007; Morton & Williams, 2010). This means that one could be confident (for 95 %) that the *independent variable* is causing the variation among the dependent variables (Bryman, 2012, p.47). The study aimed to improve its internal validity with existing operationalised scales to measure its dependent variables. Existing scales ensure that measures are stable over time, so that if a study is replicated (even in a different context), similar results should show up (Bryman, 2012, p.166). Moreover, the Likert scaling technique inquires respondents' attitudes, which is often different from their *actual behaviour*.

This is why social research has to be careful not to overestimate it findings, because measuring what people 'think and do' are two different things (Bryman, 2012, p.620). This study therefore required a 'real-life' action from its participants, asking them to sign a real-world petition from *Oxfam Novib*. This question distinguishes students' meaning from their actual behaviour. Assuring that not only changes in meaning, but also in behaviour were taken into account, while at the same a behavioural component was added to the experiment.

3.3 | Data ethics

Since digital ethics are nowadays widely discussed, it has become mandatory to incorporate these ethical considerations in this study in order to protect personal data (Pachirat, 2005, p.31). Especially since not everyone adheres to privacy instructions, populations commonly become over-researched and persons can get suspicious about scientific research. This may lead to a research environment that is less than ideal (Bryman, 2012, p.679). Data used in this research is therefore anonymised and used for research purposes only. The raw data is (locally stored) and will be deleted after finishing the study. Teachers were asked for informed consent to distribute the survey among their students. The latter were anonymised at the beginning of the questionnaire and assured that any findings were for research purposes only.

Students were kindly requested to answer all questions but had an option to say: 'I do not know'. Besides recording questions about *gender* (with an extra option to say *different*) and *political affiliation*, the survey did not inquire other sensitive background characteristics. The study strives to enlarge its societal impact by sharing its results outside the academic community (Cramer, 2015, p.19). In line with any data ethics guidelines it is therefore necessary to define what aspects of research should be made available. To comply with confidentiality, the study anonymised and removed any information from the fieldnotes that could de-personalise information (Nosek, 2015, p. 1425).

3.4 | Independent Variable

The Independent variable and experimental manipulation in this study, is: ''This Is Not a Drill'', which belongs to *Great's T-brand*. This section will elaborate why this video is a suitable branding tool. The following image shows some visual fragments of the video. In three minutes, Greta Thunberg aims to explains why climate change is a societal issue, why it is not too late to take massive action and how citizens can help to obtain her mission. Specifically, she says that 'we are living in the beginning of a mass extinction', that 'children like her are giving up their education to protest' and that 'to survive we need to stop burning fossil fuels'. She further argues that 'we/you can still fix this' catastrophe.

Thunberg advocates that are many 'natural climate solutions', such as planting trees, which according to her is the best way to restore our damaged environment. This idea is emphasised by BBC guest speaker and climate activist George Monbiot, who says: 'there is a magic machine, that sucks carbon out of the air, costs very little and builds itself. It's called a tree'. Monbiot refers to these natural solutions as 'a tool' that society must use 'to repair our broken climate'.

Image of the independent variable

Furthermore, Thunberg and Monbiot address that, while we need to invest in green solutions, 'fossil fuels' still receive 1000 times more subsidies than renewable energy sources. They argue that society is 'ignoring' green solutions, and that green solutions only receive '2%' of all the money used to tackling climate breakdown. They further state that this is 'your money', implying that the taxpayer is financing subsidies for fossil fuels. They continue that 'when we need nature the most, we're destroying it faster than ever', highlighting that 'up to 200 species are going extinct every single day, much of the arctic ice is gone and much of our soil has gone'. At the end, Thunberg directs herself towards the audience again, asking the open question: 'So what should we do?'. She then answers this question that we must: *protect, restore* and *fund* natural climate solutions. Monbiot argues that this can happen anywhere, but society has to implement these solutions on a massive scale.

Thunberg repeats that everything counts 'now', emphasising that time is scare, and further says that everything 'you do' counts as well, which relates back to self-efficacy. Besides, raising awareness and posing these green-thoughts, Thunberg also attempts to activate citizens to share her message, to join climate-movements and to vote for people who defend nature. The visuals in the video are used to enhance the underlying symbolic elements that evoke emotions among its audience. The audience mainly sees Greta in an ordinary room, which could be her own room. She is wearing ordinary clothes, nothing corporate like. She looks into the camera and speaks to her audience, during a very close-up shot of her face.

This shot comes back a few times. In the meantime, the audience sees fast images, showing that 'our climate' is breaking down. This is emphasised with shots of wildfires, melting ice, and expanding oil refineries. In the end, the video focusses on mobilisation and activation, showing organised civil marches that already follow Greta's ambition to save the planet from fossil fuels. Together, these elements unite the main idea that Thunberg as microcelebrity activist use branding strategies to address climate change on the political agenda. This video is therefore selected as experimental treatment to influence students risk perception, emotions and supportive behaviour towards climate change. Students in the text group did not watch the video, but received a written version of 'This Is Not a Drill' without visual components, which can be found in *Appendix A*.

3.5 | Dependent Variables

This research is measuring three dependent variables, known as *risk perception, negative emotions and supportive behaviour* towards climate change among high school students. In this study, all dependent variables were measured on a 7-point Likert Scale. Table 2 shows the survey items that ranged from 0 (*strongly agree*) to 6 (*strongly disagree*), with the option: *I do not know*. SPSS calculated the 'scale reliabilities' and item-consistency.

Risk Perception

This composite variable was measured, using 4-items from an existing scale and had a Cronbach's alpha of 0.767 (Xie et al., 2019; Van der Linden, 2015). The scale aimed to capture citizen's attitude and risk perception towards climate change, using statements like: 'I am concerned towards climate change' (0= strongly agree, 6 = strongly disagree). Initially the *risk perception* scale had 8-items, which enhanced its reliability to 0.901 Unfortunately, four items were deleted during the collection process, because they were incorrectly coded in the survey flow and rendered too much missing data. The first two items inquired respondents to judge how likely they think they will personally experience threats to their overall well-being as a result of climate change. Followed by the same questions for society as a whole and the last item asked whether respondents think that climate change is a threat to the natural environment (Van der Linden, 2015, p.432). The dependent variables and items are shown in table 2.

Supportive Behaviour

The following seven items were also adopted from an existing scale that measures, *supportive behaviour* (Xie et al, 2019; Van der Linden, 2015). This scale intends to predict citizens' behavioural willingness to engage in several climate change mitigation behaviours (Xie et al. 2019). This scale inquired societal and personal willingness to engage. The societal willingness questions asked participants to rate the extent to which society should be willing to take mitigative actions. For instance, society should increase the price on electricity. Students were then asked whether they were personally willing to accept these actions, such as 'I want to pay more and use less electricity'. This scale had a Cronbach's alpha of 0.889.

Negative Emotions

The next four items measured *negative emotions*, using an existing scale by Smith & Leiserowitz (2014). Respondents were asked to rate the intensity of four different emotions felt when thinking about climate change. The emotions that were assessed derived from a commonly used list of primary negative emotions and included *worry, hopeless, anger and guilt* (Smith & Leiserowitz, 2014, p.940). This scale had a Cronbach's alpha coefficient of 0.775. Table 3 shows the Cronbach's alpha coefficients of the various constructed scales. This illustrates that the various scales were reliable, which means that items of the same scale, measured the same concept.

Table 2. The Dependent Scales and Items

Risk perception *(0 = strongly agree, 6 = strongly disagree)*
1. I am concerned about climate change
2. Climate change is a threat to our natural environment
3. The current impact of climate change is concerning
4. Climate change is a threat to me personally
5. Climate change is a threat for my country (i.e. The Netherlands)
6. During my life, I will witness the negative consequences of climate change
7. Climate change will have a massive impact upon society
8. I think regularly about the possible risks of climate change
Supportive Behaviour *(0 = strongly agree, 6 = strongly disagree)*
1. I am prepared to pay more for gasoline and strive to drive less
2. I am willing to pay more for electricity and strive to use less
3. I am willing to pay more for products from sustainable companies
4. I often chose for products that are sustainable
5. I am prepared to pay more for my flight tickets to reduce my CO2 emissions.
6. I vote for a political party that aims to tackle climate change
7. I would write an email to my government about the urgency of climate change
8. I encourage my family and friends to reduce their fossil footprint
Emotions *(0 = strongly agree, 6 = strongly disagree)*
When I think about climate change, I feel…
1. Worry
2. Hopeless
3. Angry
4. Guilty

Table 3. Reliability of Constructed Scales: Cronbach's Alpha Scores per Scale

Scale	Coefficient Alphas
Risk Perception	0.767
Supportive Behaviour	0.889
Negative Emotions	0.775

3.6 | Analysis

To determine whether the experimental treatments affects students' risk perception, emotions and supportive behaviour towards climate change, a multivariate analysis of variances (MANOVA) was applied to assess whether the experiment effects one or multiple related dependent variables (Bray and Maxwell, 1985). Subsequently, three analyses of variances (ANOVA) tests were applied to investigate these differences more in-depth. The reason for conducting a MANOVA first, is to prevent a Type I error in ANOVA tests (i.e. when the null hypothesis is incorrectly rejected). Usually Pillai's Trace is considered as the most appropriate Multivariate Test for small samples with equal group sizes between various experimental groups (Allen & Bennet, 2012, p.163). The findings within this table indicate whether there is a significant difference between (two) groups on the combination of (two) dependent variables. However, since this multivariate analysis is testing three groups and more than two dependent variables, *Roy's Largest Root* seems more appropriate for this model. This decision is based upon the group size, number of dependent variables and to prevent a Type I error.

The Levene's test (F) was applied for every ANOVA to test for equality of variances for each dependent variable, which should also not yield a significant p-value > 0.05. These tests are used to discover whether the distributions between groups and between the three dependent variables are normally distributed. If this was not the case, another non-parametric test (i.e. *Kruskal-Wallis*) was applied to investigate these non-parametric populations. To discover between which groups the results were significant a post hoc tests was employed to detect differences between all possible combinations of groups. The Tukey HSD (Honestly Significant Difference) test was used, because this test is most reliable to prevent a Type I error. Although the LSD (Least Significance Difference) test has more statistical power and may yield more significant results, this test also increases the chances to incorrectly reject the null hypothesis.

The Tukey HSD is therefore chosen for its reliable statistics, and because the researcher has no specific hypothesis which group(s) will differ from each other (Allen & Bennet, 2012, p.83). Exploring the variables that are used in this analysis, it shows that supportive behaviour was not (perfectly) distributed in a normal way. Therefore, the additional non-parametric Kruskal-Wallis (H) test was applied to verify the results of this dependent variable. The Kruskal-Wallis test is typically used to compare three or more independent samples (Allen & Bennet, 2012, p.257). Finally, the theory suggest that negative emotions and risk perception can predict supportive behaviour towards climate change (Smith & Leiserowitz, 2014).

To test this theory a multiple regression analysis (MRA) was conducted per group to examine the linear relation between supportive behaviour, as dependent variable, and risk perception and negative emotions as independent variables. The following issues require considerations before running and interpreting a MRA. First is the number of cases. To produce a reliable regression model, a reasonable ratio of cases to predictors is required. What is considered as reasonable is debateable, however, N should at least have 50 cases per group (Allen & Bennett, 2012, p.180). This requirement is assured, because every group has more or less 180 participants. In a standard MRA, all predictor variables are entered into the regression simultaneously.

However, because we have to control for various treatments between the groups, three separate multiple regressions were conducted. There were no high correlations between predictors.

To assure this, the Tolerance and VIF were checked. Tolerance was not < 0.2, and VIF was not larger than > 5, which indicates that multicollinearity was not interfering our ability to interpret the outcome of the MRA (Allen & Bennett, 2012, p.181).

4 Results

This section presents the results of the experiment for each group using a MANAVO and subsequently multiple ANOVA analyses. The descriptive statistics are shown in table 4 and the results for each ANOVA are presented in table 5. In addition, a balance check was analysed to determine whether unnormal distributions in background factors affected the various outcomes. Then a binary logistic regression was used to assess whether students signed a real-life climate petition or not. The MRA was used to identify any correlations between the dependent variables. Finally, the results are summarised in the conclusion.

4.1 | Descriptive statistics

The presented descriptive statistics in table 4 illustrates the main characteristics of the respondents, resulting from this experiment. In many aspects, these descriptive statistics show a similar picture between respondents in the various groups (Karens et al., 2016, p.490).
Students receiving the video treatment were significantly more concerned about the risks of climate and engaged to participate in supportive behaviour than those in the control group.

Table 4. Descriptive Statistics of Characteristics of Respondents

Variable	Control	Text	Video	Total Data
Number of participants	180	176	184	540
Man/woman/different	87/92/1	71/104/1	62/120/2	220/316/4
Level of education (VMBO/HAVO/VWO)	16/91/72	11/97/68	10/89/83	37/277/223
Age in years (σ)	16,01(0,94)	15,95(0,95)	16,13(0,95)	16,03 (0,95)
Risk Perception (σ)	1,97 (1,19)	1,62 (1,13)	1,56** (1,16)	1,71 (1,17)
Supportive Behaviour (σ)	2,94 (1,43)	2,57 (1,27)	2,50** (1,37)	2,66 (1,37)
Negative Emotions (σ)	3,24 (1,38)	2,93 (1,34)	2,89 (1,50)	3,02 (1,41)
Signed / unsigned petitions	82/98 (45,5%)	75/101 (42,6%)	99/85 (53,8%)	256 / 284

**$p < 0.05$

Table 4 further shows that students in video group signed significantly more petitions than those in the control. Interestingly, students receiving a text treatment signed less petitions than those in the control group. The total data illustrates that respondents most strongly agree on risk perception, scoring a total mean of 1,71 measured on a 7-point scale. This means that respondents recognise the threats of climate change either as a risk to society as a whole or to themselves. The data further shows that students neither agree nor disagree whether they feel emotionally attached towards climate change, scoring an average of 3,02. Likewise, table 4 illustrates that students overall balance between neither agree nor disagree and little agree towards supportive behaviour, scoring an average of 2,66. Furthermore, most students belonged to HAVO (277) education, followed by VWO (223) and VMBO (37). This shows that the educational background was not normally distrusted. Gender (Man, 220: Female: 316: Different: 4), shows that most participants were female (58,2%).

4.2 | Inferential statistics

The MANOVA yields a significant difference between the control and test groups, since *Roy's Largest Root* holds a *F* value of 2,961 (p = 0.032), and p < 0.05 is significant. This means that the experimental treatment thus caused a significant effect on at least one dependent variable. The group means and standard deviations for each dependent variable are presented in table 4 (Allen & Bennet, 2012, p.164). The Box's M test of equality of covariance matrices for the dependent variables should not yield any significant results (p > 0.05) in order to have a normally distributed population. Whereas this statistic result is important for the ANOVA, the MANOVA is robust enough against any violations of homogeneity of variance matrices, whenever group sizes are larger than 30 (Allen & Bennet, 2012, p.163). The statistics show that Box's M test is significant, however, since this study inquired 540 students (>30) this is not problematic for the MANOVA.

Table 5. Results of the ANAVO's among the respondents, with the various groups as independent variable and Risk Perception, Emotions and Supportive Behaviour as dependent variables

	Risk Perception	Negative Emotions	Supportive Behaviour
Mean Control group (σ)	1,84 (1,09)	3,16 (1,37)	2,96 (1,45)
Mean Text group (σ)	1,61 (1,06)	2,98 (1,28)	2,58 (1,26)
Mean Video group (σ)	1,55** (1,07)	2,89 (1,46)	1,50** (1,36)
ANOVA	3,617**	1,674	4,066**
Levene's test F	0,058 n.s.	2,236 n.s.	3,317
Kruskal-Wallis H	-	-	6,355**

**p < 0.05; n.s. = not significant

Results for Risk Perception

Leven's test of homogeneity of variances is not significant α = 0.05, (F = 0.058, *Sig* = 0.943). It can therefore be assumed that the assumption of homogeneity of variance was not violated (Allen & Bennett, 2012, p.82). This means that the group means were normally distributed towards risk perception and that there was no need to conduct a non-parametric test. The experimental results for risk *perception* showed a significant difference between the control and treatment groups. The *F*-ratio is (2,504) = 3,617, p = 0.028, because p < 0.05. To find out which groups were different, the post hoc comparison was analysed.

The ANOVA, Tukey HSD as post hoc comparison seemed the most appropriate test here, because the group sizes were almost similar (Allen & Bennett, 2012, p.82). It shows that there is a -0,296 difference between the mean of the video and the control group. This difference is statistically significant at α = 0.05 (sig = 0.030). Table 5 further indicates that no other pairs of means differ significantly (Allen & Bennett, 2012, p.83).

H1 is therefore accepted. In other words, Greta's T-brand has a small 'negative' effect upon of students' risk perception towards climate change in the video group. This means that *Greta's T-brand thus increases students' risk perception of climate change.*

Results for Negative Emotions

Leven's test of homogeneity of variances is not significant α = 0.05, (F = 2,236, *Sig* = 0.108). It can therefore be assumed that the assumption of homogeneity of variance was not violated (Allen & Bennett, 2012, p.82). This means the groups are normally distributed. The *F*-ratio is (2, 502) = 1,674, p = 0,188 and not significant, because p > 0.05. The post hoc test is thus not required, since there is no significant difference between the groups. Also, when the emotions were measured separately, no significant results were found for any negative measured emotion. The alternative hypothesis H2 is therefore rejected. *Greta's T-brand does not have a significant impact upon students' emotional involvement towards climate change.*

Results for Supportive Behaviour

Leven's test of homogeneity of variances is significant α = 0.05, (F = 3,317, *Sig* = 0.045). It can therefore be assumed that the assumption of homogeneity of variance was violated for supportive behaviour (Allen & Bennett, 2012, p.82). This means that the group means were not distributed towards behaviour, therefore a non-parametric Kruskal-Wallis test was applied. The additional non-parametric Kruskal-Wallis test showed that there was a significant difference between the video and control group. The Kruskal-Wallis H = 6,355 (p = 0,015; Adj. p by the *Bonferroni correction* for multiple tests = 0,042). The *F*-ratio (2,368) = 4,066, p = 0.018. To find out which groups are different, the Tukey HSD post hoc comparison was analysed. It shows that there is a -0,466 difference between the mean of the video and the control group. This difference is statistically significant at α = 0.05 (sig = 0.021).

The table further indicates that no other pairs of means differ significantly using the Tukey HSD (Allen & Bennett, 2012, p.83). The alternative H3 can thus be accepted. *This means students in the video group showed significantly more supportive behaviour than those in the control group.*

In addition, the 'transformational' strategy (i.e. video version of 'This Is Not a Drill') was not significantly more effective to increase students' supportive behaviour towards climate change, than the 'informational' text version. *Greta's T-brand* using visual elements does not significantly increase students' supportive behaviour more than an informational message strategy. The hypothesis H4 is rejected. *This means that students in the video group were not significantly more supportive than those in the text group.*

Signing the petition

In order to investigate whether there were any significant differences between students in the treatment and control groups that signed or did not sign the petition, a bivariate logistic regression was conducted. The bivariate analysis is concerned with the analysis of two variables at a time (i.e. one continuous and one dichotomous variable) in order to discover whether the two variables are related or not (Bryman, 2012, p.339). This logistic regression therefore attempts to predict 'how likely' participants in the various groups will be to sign the climate change petition (Allen et al., 2014, p.200). The probability of signing the petition was estimated using the existing data on groups (Control, T1 and T2) and signing the petition (0= signing, 1 = not signing).

The following tests (i.e. omnibus, Cox and Snell and Nagelkerke) are conducted to indicate whether the dependent variable 'different groups' affected the model. Cox and Snell R^2 = .009, Nagelkerke R^2 = 0.012 and the omnibus model for this logistic regression analysis was statistically not significant, χ^2 (*df* = 2, *N* = 540) = 4,893, p = 0,087, because p > 0.05. This means that the model was about 55,2 % accurate in its predictions of respondents to sign or not sign the petition. Hosmer-Lemeshow test results confirmed that the model was a good fit for the data, χ^2 (*df* = 1, *N* = 540) = 0,000, p = 1,000. This test is used to determine whether the model was accurate enough to predict its outcomes. The significant result explains that there was enough evidence to accept its prediction. The coefficients for the model's predictors are presented in table 6.

Table 6. Predictor Coefficients for the Model predicting Signing the Petition (N=540)

	b	SE (b)	*p*	*Exp (B)* [95% CI]
Constant	-0,15	0.15	0.302	0.86
Text group	0.33	0.21	0.116	1.39 [0.12, 2,10]
Video group	0.45	0.21	0.034**	1.57 [0.03, 2,38]

**p < 0.05; CI = confidence interval

As demonstrated in table 6, the video treatment group was the only predictor which significantly increased the model's predictive capability. The odds ratio for the video treatment indicated that if a student was included in this group, there was a 57 % increase in the likelihood that this student would sign the petition (Allen et al., 2014, p.211). The text treatment did not significantly influence the probability of a student signing the petition. Therefore, the alternative hypothesis H5 can be accepted for the video group. *This means that Greta's T-brand (in video version) increases students' likelihood to sign the climate petition*.

Relations between dependent variables

In combination, negative emotions and risk perception accounted for a significant variability in supportive behaviour for each group. The MRA in the control group predicts that 9.1 % of the variance in supportive behaviour can be explained by negative emotions and risk perception, R^2 adjusted = 0,091, *F* (2, 176) = 9.952, p = .000. *R* square represents the proportion of variance in the dependent variable that can be accounted for by the predictor variables in combination. The adjusted R square provides a more accurate estimate of the true extent of the relationship between the predictors and dependent variable. The adjusted R square offers a better estimate of the population R^2. Therefore, the adjusted R square is reported in this study, because it is on average a better to predictor of variance (Allen & Bennett, 2012, p.187).

The MRA in the text group even predicts that 41,6 % of the variance in supportive behaviour can be explained by negative emotions and risk perception, R^2 adjusted = 0,416, *F* (2, 171) = 62,587, p = .000. The MRA in the video group predicts that 24,6 % of the variance in supportive behaviour can be explained by negative emotions and risk perception, R^2 adjusted = 0,246, *F* (2, 180) = 30.668, p = .000.

The ANOVA (*F*) table in the MRA explains that the full regression model has predictive utility. This means, the predictors collectively account for a statistically significant proportion of the variance in the dependent variable (i.e. supportive behaviour). All three MRA's had a significant result (*Sig* < 0.05), indicating that R^2 does significantly differ from zero. *Negative emotions and risk perception*, in combination, thus significantly account for variance in supportive behaviour, which is not caused by chance (Allen & Bennett, 2012, p.187). The coefficients for each predictor to predict supportive behaviour are reported in table 7 per group.

The unstandardized (*B*) and standardized (β) regression coefficients and squared semi-partial correlations (sr^2) render information about the role each individual predictor plays in the MRA. 'It is here that we find out which predictors say something unique about the dependent variable, and which are less interesting or redundant' (Allen & Bennett, 2012, p.187). The unstandardized coefficients or *B* weights indicate the predicted change in the dependent variable associated with a 1-unit change in the relevant predictor, after controlling for the effects of other predictors in the model. The Standardized Coefficients or Beta (β) weights indicate the predicated change – in standard deviations. These β weights are scale free and can be used to compare predictors within a regression model. The coefficients table has a 95 % confidence interval, including a lower and upper bound. This means that we can be 95 % sure that the interval between the lower and upper bound contains the true population coefficient *B* (Allen & Bennett, 2012, p.187).

Table 7. Multiple Regression Analysis predicting Supportive Behaviour by Negative Emotions and Risk Perception, per group.

variable	*B* [95% CI]	β	sr^2
Control group			
Negative emotions	.377 [.21, .544]**	.328**	0.10
Risk perception	-.322[-.952, .31]	-.074	0.005
Text group			
Negative emotions	.522 [.399, .646]**	.537**	.235
Risk perception	.498 [.185, .812]**	.202**	0.033
Video group			
Negative emotions	.255 [0.08, .430]**	.237**	0.034
Risk perception	.490 [.241, .739]**	.320**	0.062

**p < 0.01; CI = confidence interval

This means for the control group that after controlling for risk perceptions, a 1-unit increase in negative emotions, will result in a predicted 0,377 increase in supportive behaviour. Interestingly, a 1-unit increase in risk perception, after controlling for negative emotions, will result in a predicted -0,322 decrease in supportive behaviour. This would suggest that the more concerned students become in the control group, they less likely they become to engage in supportive behaviour. The correlation section further provides the semi-partial correlation (*sr*) between the predictor and the dependent variable.

‘*Sr* is a particular useful statistic, as it can be squared to give the proportion of variance in the dependent variable that is uniquely explained by the predictor. Sr^2 therefore is the amount by which R^2 would decrease if the predictor were removed from the MRA’ (Allen & Bennett, 2012, p.188). Here, the *sr* for negative emotions in the text group is .485, indicating that 23,5 % of the variance in supportive behaviour can be uniquely attributed to perceived negative emotions.

Balance check

Although the groups were equally randomised; a balance check helps to understand whether significant differences in background variables could have affected the outcomes. To investigate this a few independent T-tests were conducted to understand whether the differences in gender, level of education and political affiliation between the groups were significant (Baekgaard et al., 2015).

Gender

First gender was inquired. The distribution between males and females was not normally distributed and violated the Levene’s test of homogeneity of variances. Therefore, three non-parametric Mann-Whitney *U* tests were conducted to control for gender. The first test indicated that males (*Mean Rank* = 283,47, n=203) were significantly less concerned about the risks of climate change than females (*Mean Rank* = 231,61, n=301). *U* = 24264,5, z = -3,934, p = 0,000 and r = 0.18. By Cohen’s (1988) conventions this is a small effect size (Allen & Bennett, 2012, p.245). The following two Mann-Whitney *U* tests indicated that females were significantly more emotionally attached and engaged towards climate change than males (results are shown in the *Syntax*). This means female students felt more angry, guilty and worried about climate change and were more willing to participate in supportive behaviour than male students.

Risk Perception

A Kruskal-Wallis test was applied to understand whether differences in educational level and political affiliation had a significant difference on the outcomes. The Kruskal-Wallis ANOVA indicated a significant difference between education and perception (H = 11,007, p = 0.004), and between political affiliation and perception (H = 44,954, p = 0,000). The results can be found in the *Appendix* B. This means that both education and political affiliation had a significant affect upon how students perceived the risks of climate change.

Higher educated students and those who would vote for green parties were both more concerned about the threats of climate change, than lower educated students and those who would vote for conservative parties.

Negative Emotions

Education also had a significant affect upon emotions (H = 9,128, p = 0,010), and likewise political affiliation caused a significant difference on emotions (H = 35,217, p = 0.000). Results show that higher educated students and those who would vote for green parties were both significantly more emotionally attached towards climate change. These students were more worried, and guilty than lower educated students and those who would vote for conservative parties.

Supportive Behaviour

There was no significant difference found between education and supportive behaviour, but political affiliation did cause a significant effect on supportive behaviour (H = 38,493, p = 0,000). To know which groups exactly differed from each other, multiple Mann-Whitney *U* tests were conducted (results are shown in the *Syntax*). This showed that students who would vote for green, religious and social democratic parties were significantly more willing to participate in supportive behaviour towards climate change than those who would vote for conservative parties.

Control question and manipulation check

Prior to the random allocation of experimental treatments, the survey also inquired students' *previous assessment* of climate change with a 'control question'. Students were asked whether they agreed or disagreed that climate change is the biggest challenge of the 21th century. They had to rate their answer on a 7-point scale. As expected, the *mean* scores from the control question were higher, then the perception scale scores. The rationale for this comparison is that the *risk perception mean* scores are measured after the treatments have been randomly allocated over the various groups. The control question worked, because the *mean of the control group* barely changed, while the text and video group both became more concerned about the risks of climate change than before the treatment. Students in the video group even became significantly more concerned than those in the control group $\alpha = 0.05$ (sig = 0.030). This indicates that the video altered students' risk perception. Table 8 shows the results of the ANAVO's with groups as independent variable and the control question and risk perception scale as dependent variables.

Table 8. Prior assessment of students' risk perception towards climate change (N=540)

	Control question	*Risk Perception scale*
Control group (σ)	1,91 (1,40)	1,84 (1,09)
Text group (σ)	1,87 (1,45)	1,61 (1,06)
Video group (σ)	1,64 (1,20)	1,55** (1,07)

**p < 0.05

The manipulation check was included at the end of the survey to identify whether the treatments had actually caused the effect on respondents that led to these significant outcomes. Respondents who received the video treatment were asked whether respondents had seen Greta Thunberg or Barack Obama in the video. The correct answer was *173 times* given and only 4 students said Obama. This illustrates that 97.74 percent of the students identified Greta Thunberg, which makes it plausible to believe that the experimental treatment caused the effect. For the text group the manipulation check inquired which solution was proposed in the text. The correct answer was *155 times* given for planting trees, *19 times* students said, 'nuclear energy' and *14* students said, 'nuclear fusion'. This means that 83,87 percent scored the correct answer in this text group. Likewise, these results indicate that the manipulation check can be positive about the idea that the treatments caused the observed effect.

4.3 | Conclusion

The purpose of this study was to gain more insights on microcelebrity activism within civil rights movements by measuring the influence of microcelebrity activist Greta Thunberg on students' attitude and behaviour towards climate change. The research question that guided this study was: *How does Greta's T-brand influence high school students' risk perception, emotions and supportive behaviour towards climate change?* It was assumed that her brand would affect students' orientation and willingness to engage in climate activism. Using an experimental design in which 540 students successfully participated, the independent effect of *Greta's T-brand* was determined. The experiment shows that students in the video group, scored approximately 0.35 to 0.4-point lower on every dependent variable (measured on a 7-point scale) than those in the control group. This means that students in the video group were both significantly more supportive in their behaviour and concerned about the risks of climate change than students in the control group.

Karens et al. (2016, p.491) found that EU-branded students scored 0.6 to 0.8 point more trust (measured on a 10-point). Translating their results to a 7-point scale would show an effect of 0.42 – 0.56 point more trust on EU-branded students. Greta Thunberg as environmental microcelebrity activist thus caused a similar medium positive effect upon students' risk perception and support for climate policies. Regarding emotional involvement, no significant results were found between the various groups.

Moreover, the binary logistic regression indicates that students in the video group also had a significant 57 % higher likelihood to sign the petition than those in the control group. This shows that this experiment, not only altered students' attitude, but also changed their actual behaviour in the desired direction of the video. This means that Greta Thunberg had a small to medium significant affect to mobilise students in the video group. This study has thus illustrated that brands hold an intrinsic symbolic power to persuade and activate students.

In line with the literature (Smith & Leiserowitz, 2014) the MRA's showed that risk perception and negative emotions in combination explain a significant variability in supportive behaviour. There was a correlation between the dependent variables. For the text group 41,6 % and for the video group 24,6 % of the variance in supportive behaviour were explained by negative emotions and risk perception. Meanwhile the control group only explained 9.1 % of variance in supportive behaviour by negative emotions and risk perception. This could indicate that *Greta's T-brand* evoked particular feelings and cognitive responses that may have led to changes in behaviour.

5 Discussion

5.1 | Steering behaviour and risk perception

This study has shown that *Greta's T-brand* was able to increase students' awareness and supportive behaviour towards climate change, which renders theoretical and empirical implications. Surprisingly the video treatment led to significantly more support and engagement, while negative emotions were not significantly affected. This is unexpected, since Greta's branding campaign is built upon negative moods to panic society. It was therefore suspected that her brand would arouse these negative emotions as well. But this does not mean that negative emotions in the video did not trigger the outcomes. Based on the literature (Leiserowitz et al., 2012; Sjöberg, 2007) the results are in line with the previous studies that also found that negative emotions caused an increased risk perception and behavioural willingness to participate towards climate change. The MRA showed that negative emotions in combination with risk perception explained a significant part of the variance in supportive behaviour.

It is also possible that different emotions were evoked that were not measured in the experiment, or that students find it hard to relate to climate change as societal issue, because it is still seen as a distant and abstract threat (Smith & Leiserowitz, 2014). Future research on *Greta's T-brand* could investigate which emotions play an important role in climate communication, including positive emotions such as hope. According to the literature, however, negative emotions remain a credible choice. Especially 'worry' has a sustainable and long-lasting effect upon citizens, because 'worrying' stimulates careful information processing (Finucane, 2008). This study assumed that Thunberg used *anger* and *worry* to emphasise the urgency of climate change, but her panic strategy might backfire in the long run if citizens begin to suffer from *issue fatigue*, especially when individuals view climate change as abstract and cannot relate to its impact. Since, climate change is Not happening In My Back Yard (NIMBY) it can create struggles to engage citizens in climate action.

Nevertheless, this study provided empirical evidence that branding is effective within the public realm. The video group significantly altered students' risk perception and behaviour in a desired direction. It is therefore proposed that civil rights movements can use microcelebrity activists to address climate change on the political agenda and to ensure their longevity. This study empirically showed that brands can either be used to mobilise citizens to take action (i.e. signing a petition and willingness to engage), but also to increase their cognitive understanding of societal issues (i.e. risk perception). This renders the question under which conditions it is legitimate and effective to use public branding as governance strategy? The following sections therefore discuss the ethical boundaries and effectiveness of branding.

5.2 | Risks and Limits of Branding

Brands have risks in that sense that branding can be biased to specific target groups or when it ignores local citizens. This lack of attention to local citizens illustrates a problematic relation between governance processes and branding instruments (Eshuis & Klijn, 2012, p.136). Not surprisingly, this debate on the limitations of branding exists within the literature (Greenberg, 2008; Holt, 2002; Klein, 2000; Vavrus, 2007). When brands trigger associations and ideas without people being aware of it, they run a risk of manipulation and some scholars even view branding as a new form of propaganda (Klein, 2000; Vavrus; 2007). Brands are therefore critiqued when they provide selective information that misleads people. These scholars view brand managers as *Cultural Engineers* and assume that brands are highly effective in influencing the mind (Kunda, 2009; Eshuis & Klijn, 2012, p.137). Other scholars, however, critique its effectiveness and argue that brands underestimate *people's agency* and overestimate the authority of brand managers (*ibid*). The literature mainly distinguishes two forms of critique: (1) the limitations of branding related to effectiveness and (2) the ethical and normative risks of branding.

5.2.1 | Limited effectiveness

The first critique builds on the lacking empirical evidence that brands have an impact on perceptions. It is still unclear whether and how brands influence human cognition and subsequently it is unknown whether this leads to changes in behaviour (Eshuis & Klijn, 2012, p. 146). In other words: *how effective are brands in influencing perceptions and behaviour?* Other limitations of branding relate to features of the public sector, in particular on the complexity and limited manageability of brands that are coproduced by multiple actors. Public branding is also questioned regarding how public money is spend. If people view brands as a waste of money, this can negatively affect its effectiveness (Eshuis & Klijn, 2012, p. 150). This happens more often when public brands are associated with extravagance.

In addition, another limitation of brands is *path dependency*. Whenever brands are not completely new, they are shaped by their history. This path dependency makes it very complex to rebrand an object, especially if the brands had a 'bad image' before. This theory implies that rebranding a 'bad neighbourhood' is almost impossible (Eshuis & Klijn, 2012, p.146). Furthermore, brands can suffer from counter-branding strategies. Competing brands can draw attention away from each other's audiences and subsequently diminish their effectiveness (Eshuis & Klijn, 2012, p.146). Also, when brands are overly positive and do not deliver what they promise they can lose their effect (Lees-Marshment, 2004; Reeves et al., 2006). Whereas this is not as much of an issue for the private sector, it does belong to the accountability of the public sector where governments not only have to think about efficiency but also about 'moral issues' (Eshuis & Klijn, 2012, p.137). This is why the second critique on branding focusses on ethical questions, such as: *how far can we go in influencing perceptions, and can brands hinder a democratic deliberative process?*

5.2.2 | Ethical considerations

A core assumption of liberal democracies is that states have to serve citizens as *consumers*, but also as *democratic participants*. This requires that governments establish a democratic process of deliberation. Branding instruments may hinder such dialogues and decision-making processes, because they evoke too strong emotions that may exclude discussions on alternatives, especially when they work unconsciously (Eshuis & Klijn, 2012, p.137). This potential manipulation is seen as 'spinning', a process that hinders that citizens acquire a proper understanding of what their governments are doing (Greenberg, 2008). One could argue that *Greta's T-brand* in a way is 'greenwashing' citizens for a good cause. This problem becomes larger when only an elite group of actors is able to develop (and co-produce) the brand (Lucarelli, 2011).

Several authors have discussed this issue on place-branding, arguing that place-branding focusses too much on the *positive attributes* of cities and neglects certain harsh realities of urban life (Eshuis & Klijn, 2012, p.138). Paddison (1993) for example showed that Glasgow's place-branding concealed its social deprivation and poverty. Likewise, Greenberg (2008) argued that brand managers in New York constructed an image that was attractive towards tourists and businesses to enhance New York's economic position. Yet it came at the expense of underground movements (Eshuis & Klijn, 2012, p.141). *Cultural Engineers* therefore have to understand various social groups, before they implement an image that may damage inclusive values of a community.

Naomi Klein (2000) and Mary Douglas Vavrus (2007) therefore see branding as an extremely manipulative tool, and thus implicitly acknowledge its effectiveness in terms of managing perceptions. If one believes that branding is highly effective, this also implies that brands are potentially dangerous for society at large. Its effectiveness may be a risk in an ethical sense if it is *misused* (Eshuis & Klijn, 2012, p.147). This means that, ethically speaking, brand developers have to be open and wary about their intentions.

This reveals that some scholars argue that branding is highly effective, whereas others point to its limitations. Some argue that branding is an additional tool to communicate public policy in a visual way to people that have neither the time nor the interests to absorb large amounts of information. While others critique branding for its potential risks to manipulate and corrupt democracy (Eshuis & Klijn, 2012, p.147). Both positions have credible points, but the issue of effectiveness is an empirical one. This study showed that Greta Thunberg as microcelebrity activist has a small to medium influence on perception and behaviour towards climate, but public brands deserves further research to unravel their potential. It also remains questionable to what extent noninstitutional microcelebrity activists in the public realm adhere to democratic assumptions. Future research could investigate whether noninstitutional actors take these ethical considerations into account.

5.3 | Limitations and future research

There are a few limitations in this study that deserve close attention. First of all, the results are based upon multiple middle school in the Netherlands, it is unsure whether similar findings would show up if other schools were inquired. In addition, it is unlikely that adults will relate similar to Greta Thunberg as teenagers. Especially, because Thunberg focused on galvanising young people to participate in climate movements.

Furthermore, the study cannot be entirely sure whether students (within or between experimental groups) shared information with each other while completing the online survey. It seems very unlikely that students between middle schools shared information, but it is a possibility that students within schools did (Bryman, 2012, p.54). Even though a parallel testing-method, was used – this potential respondent bias remains a limitation. More specially, this potential bias harms the *external validity* when subjects in an experiment become 'sensitised' for experimental treatments. Consequently, this potential bias limits the experimental generalisability towards other groups that were not sensitised in advance.

Another limitation that may jeopardise the outcomes of this experiment, is the setting and treatment. Since, this survey experiment was not conducted in students' *natural environment*, the results may differ when the study is applied to other settings. If Covid-19 had not intervened the research process, the study would have been conducted at middle schools. This natural environment could bring more realistic outcomes to the experiment and would have increased the availability to control the parallel method design. However, it would also have caused more practical issues to divide various groups from each other.

Moreover, this study does not provide a 'thick description' of the context, that is usually given by more qualitative, interpretative studies using case study designs. Interpretivists 'get their hands dirty' by entering the field to engage with their participants. Luker (1984) argues that observations and in-depth findings not only explore 'what' is being said but also 'how' participants mean to say it. The richness of this particular meaning is usually lost in survey data but is crucial to understand the context. Qualitative research can contribute to gain a better understanding how this social phenomenon is interpreted in its context (Yanow, 2000; Geertz, 1973). Qualitative studies are more vividly involved in the world that is observed, rendering *local knowledge* that derives from a context, while quantitative research has more opportunities to distance itself from the context to find an 'objective' and 'independent' truth (Bryman, 2012, p.55).

It is therefore argued that qualitative work could contribute to this study by providing a thick description how individuals think about the risks of climate change and supportive behaviour (Cramer, 2015, p.19). Future research can also use mixed methods to combine the best of both worlds by inductively and deductively building upon this study, equipping the reader with more extensive knowledge about the context (Yanow, 2000; Cramer, 2015, p.17). For example, using interviews to understand how actors (e.g. politicians and activists) relate to branding strategies to increase support and engagement towards climate change.

6 | Literature

Abidin, C., Brockington, D., Goodman, M. K., Mostafanezhad, M., & Ann Richey, L. (2020). The Tropes of Celebrity Environmentalism. *Annual Review of Environment and Resources*, *45*.

Abimbola, T., Trueman, M., Iglesias, O., Merrilees, B., Miller, D., & Herington, C. (2012). Multiple stakeholders and multiple city brand meanings. *European Journal of Marketing*.

Allen, P., & Bennett, K. (2012). *SPSS Statistics-A Practical Guide*. Cengage Learning Australia Pty Ltd.

Allen, P., Bennett, K., & Heritage, B. (2014). *SPSS statistics version 22: A practical guide*. Cengage Learning Australia.

Allison, P. D (2001). Missing data. Series: Quantitative Applications in the Social Sciences, Vol. 136. Thousand Oaks, CA, Sage

Alon-Barkat, S. (2020). Can government public communications elicit undue trust? Exploring the interaction between symbols and substantive information in communications. *Journal of Public Administration Research and Theory*, *30*(1), 77-95.

Alon-Barkat, S., & Gilad, S. (2017). Compensating for poor performance with promotional symbols: Evidence from a survey experiment. *Journal of Public Administration Research and Theory*, *27*(4), 661-675.

Andersson, I. (2014). Placing place branding: an analysis of an emerging research field in human geography. *Geografisk Tidsskrift-Danish Journal of Geography*, *114*(2), 143-155.

Arvidsson, A. (2006). *Brands: Meaning and value in media culture*. Psychology Press.

Balmer, J. M. (2006). Corporate brand cultures and communities. In *Brand culture* (pp. 45-58). Routledge.

BBC (2018). The big science and environment stories of 2019. https://www.bbc.com/news/science-environment-50631059

Bennett, W. L. (2009). News. The Politics of Illusion (8e uitg.).

Boeije, H.R. (2010). Analysis in qualitative research. London: sage

Booth, W. C., Colomb, G. G., & Williams, J. M. (2003). *The craft of research*. University of Chicago press.

Boyne, G. A. (2002). *Public and Private Management*: What's the Difference? *Journal of Management Studies*, 39(1): 97-122.

Bryman, A., Becker, S., & Sempik, J. (2008). Quality criteria for quantitative, qualitative and mixed methods research: A view from social policy. *International Journal of Social Research Methodology*, *11*(4), 261-276.

Cobb, R. W., & Elder, C. D. (1983). 2nd Participation in American Politics: The Dynamics of Agenda-Building.

Cramer, K. (2015). Transparent explanations, yes. Public transcripts and fieldnotes, no: Ethnographic research on public opinion. *Qualitative & Multi-Method Research*, *13*(1), 17-20.

Danesi, M., (2006) *Brands*. London: Routledge.

De Bakker, F. G., Den Hond, F., King, B., & Weber, K. (2013). Social movements, civil society and corporations: Taking stock and looking ahead. *Organization studies*, *34*(5-6), 573-593.

DeVellis, R. F. (2016). *Scale development: Theory and applications* (Vol. 26). Sage publications.

Edelman, M. U. R. R. A. Y. (1977). Words that succeed and policies that fail.

Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). Doing naturalistic inquiry: A guide to methods. London: Sage.

Eshuis, J. Eshuis, Jasper and Erik-Hans Klijn (2012) Branding in Governance and Public Management. London: Routledge.
Eshuis, J., Klijn, E. H., & Braun, E. (2014). Place marketing and citizen participation: branding as strategy to address the emotional dimension of policy making? *International review of administrative sciences*, *80*(1), 151-171.

Fecher, B., & Friesike, S. (2014). Open science: one term, five schools of thought. In Opening science (pp. 17-47). Springer, Cham. https://link.springer.com/chapter/10.1007/978-3-319-00026-8_2

Feldman, M. S. (2004). Resources in emerging structures and processes of change. *Organization Science*, *15*(3), 295-309.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. sage.

Finucane, M. L. (2008). Emotion, affect, and risk communication with older adults: challenges and opportunities. *Journal of risk research*, *11*(8), 983-997.

Fischer, F. (2003). *Reframing public policy: Discursive politics and deliberative practices*. Oxford University Press.

Forgas, J. P. (1992). Affect in social judgments and decisions: A multiprocess model. In *Advances in experimental social psychology* (Vol. 25, pp. 227-275). Academic Press.

Fraussen, B. (2014). The visible hand of the state: On the organizational development of interest groups. *Public Administration*, *92*(2), 406-421.

Gaggiotti, H., Cheng, P. L. K., & Yunak, O. (2008). City brand management (CBM): The case of Kazakhstan. *Place Branding and Public Diplomacy*, *4*(2), 115-123.

Greenley, G. E., & Foxall, G. R. (1997). Multiple stakeholder orientation in UK companies and the implications for company performance. *Journal of Management Studies*, *34*(2), 259-284.

Guardian (2019). https://www.theguardian.com/environment/2019/sep/27/climate-crisis-6-million-people-join-latest-wave-of-worldwide-protests

Gummesson, E. (2002). Relationship marketing in the new economy. *Journal of Relationship marketing*, *1*(1), 37-57.

Hankinson, G. (2004). Relational network brands: Towards a conceptual model of place brands. *Journal of vacation marketing*, *10*(2), 109-121.

Hanna, S., & Rowley, J. (2011). A practitioner-led strategic place brand-management model. *Journal of Marketing Management*, *29*(15-16), 1782-1815.

Hatch, M. J., & Schultz, M. (2010). Toward a theory of brand co-creation with implications for brand governance. *Journal of Brand Management*, *17*(8), 590-604.

Hoegh-Guldberg, O., Jacob, D., Bindi, M., Brown, S., Camilloni, I., Diedhiou, A., ... & Hijioka, Y. (2018). Impacts of 1.5 C global warming on natural and human systems. *Global warming of 1.5° C. An IPCC Special Report*.

Höijer, B. (2010). Emotional anchoring and objectification in the media reporting on climate change. *Public Understanding of Science*, *19*(6), 717-731.

Illia, L. and Lurati, F. (2006), "Stakeholder perspectives on organizational identity: searching for a relationship approach", Corporate Reputation Review, Vol. 8 No. 4, pp. 293-304.

Kapferer, J. N. (2008). *The new strategic brand management: Creating and sustaining brand equity long term*. Kogan Page Publishers.

Kapferer, J. N. (2012). *The new strategic brand management: Advanced insights and strategic thinking*. Kogan page publishers.

Karens, R., Eshuis, J., Klijn, E. H., & Voets, J. (2016). The impact of public branding: An experimental study on the effects of branding policy on citizen trust. *Public Administration Review*, *76*(3), 486-494.

Kavaratzis, M. (2004). From city marketing to city branding: Towards a theoretical framework for developing city brands. *Place Branding*, *1*(1), 58-73.

Kavaratzis, M., & Ashworth, G. J. (2005). City branding: an effective assertion of identity or a transitory marketing trick? *Tijdschrift voor economische en sociale geografie*, *96*(5), 506-514.

Kavaratzis, M., & Ashworth, G. J. (2006). Changing the tide: the campaign to re-brand Amsterdam.

Kavaratzis, M. (2008). *From city marketing to city branding: An interdisciplinary analysis with reference to Amsterdam, Budapest and Athens*. Rijksuniversiteit Groningen.

Kavaratzis, M., & Hatch, M. J. (2013). The dynamics of place brands: An identity-based approach to place branding theory. *Marketing theory*, *13*(1), 69-86.

Keller, K. L. (1999). Managing brands for the long run: brand reinforcement and revitalization strategies. *California management review*, *41*(3), 102-124.

Kingdon, J. W., & Stano, E. (1984). *Agendas, alternatives, and public policies* (Vol. 45, pp. 165-169). Boston: Little, Brown.

Klapp, O. E. (1986). *Overload and boredom: Essays on the quality of life in the information society*. Greenwood Publishing Group Inc.

Klein, N., & Sawchuk, K. (2000). No logo: taking aim at the brand bullies. *Canadian Journal of Communication*, *25*(4), 576.

Klijn, E. H., Eshuis, J., & Braun, E. (2012). The influence of stakeholder involvement on the effectiveness of place branding. *Public management review*, *14*(4), 499-519.

Klijn, E. H., Steijn, B., & Edelenbos, J. (2010). The impact of network management on outcomes in governance networks. *Public administration*, *88*(4), 1063-1082.

Klijn, E. H., & Koppenjan, J. (2014). Complexity in governance network theory. *Complexity, Governance & Networks*, *1*(1), 61-70.

Kooiman, J. (1999). Social-political governance: overview, reflections and design. *Public Management an international journal of research and theory*, *1*(1), 67-92.

Kooiman, J., ed. 1993. Modern governance. London: Sage.

Koppenjan, J., & Klijn, E. H. (2004). *Managing uncertainties in networks: Public private controversies*. Routledge.

Kotler, P., Armstrong, G., Saunders, J., & Wong, V. (1999). Principles of Marketing (2nd European ed.) Prentice Hall Europe.

Kotler, P. (1999). Political Marketing--Generating Effective Candidates, Campaigns, and Causes. In *Handbook of political marketing* (pp. 3-18). Sage Publications.

Kunda, G. (2009). *Engineering culture: Control and commitment in a high-tech corporation*. Temple University Press.

Laaksonen, S. M., Pantti, M., & Titley, G. (2020). Broadcasting the Movement and Branding Political Microcelebrities: Finnish Anti-Immigration Video Practices on YouTube. *Journal of Communication*, *70*(2), 171-194.

Lehner, M., & Halliday, S. (2014). Branding sustainability: Opportunity and risk behind a brand-based approach to sustainable markets. *Ephemera: Theory and Politics in Organization*.

Levitt, S. D., & List, J. A. (2007). What do laboratory experiments measuring social preferences reveal about the real world? *Journal of Economic perspectives*, *21*(2), 153-174.

Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological bulletin*, *127*(2), 267.

Lucarelli, A., & Berg, P. O. (2011). City branding: a state-of-the-art review of the research domain. *Journal of place management and development*, *4*(1), 9-27.

Lucarelli, A., & Brorström, S. (2013). Problematising place branding research: A meta-theoretical analysis of the literature. *The Marketing Review*, *13*(1), 65-81.

Malhotra, N., & Birks, D. (2007). *Marketing Research: an applied approach: 3rd European Edition*. Pearson education.

Meijnders, A. L., Midden, C. J., & Wilke, H. A. (2001). Role of negative emotion in communication about CO2 risks. *Risk Analysis*, *21*(5), 955-955.

Middaugh, E. (2019). More Than Just Facts: Promoting Civic Media Literacy in the Era of Outrage. *Peabody Journal of Education*, *94*(1), 17-31.

McAlexander, J. H., Schouten, J. W., & Koenig, H. F. (2002). Building brand community. *Journal of marketing*, *66*(1), 38-54.

Minkoff, D. C. (1999). Bending with the wind: Strategic change and adaptation by women's and racial minority organizations. *American Journal of Sociology*, *104*(6), 1666-1703.

Morton, R. B., & Williams, K. C. (2010). *Experimental political science and the study of causality: From nature to the lab*. Cambridge University Press.

Muniz, A. M., & O'guinn, T. C. (2001). Brand community. *Journal of consumer research*, *27*(4), 412-432.

Myers, T. A., Nisbet, M. C., Maibach, E. W., & Leiserowitz, A. A. (2012). A public health frame arouses hopeful emotions about climate change. *Climatic change*, *113*(3-4), 1105-1112.

Nosek, B.A., G. Alter, G. C. Banks, D. Borsboom et al. (2015) Promoting an open research culture. Science 348(6242): 1422-1425.

Nownes, A. J., & Lipinski, D. (2005). The population ecology of interest group death: gay and lesbian rights interest groups in the United States, 1945–98. *British Journal of Political Science*, *35*(2), 303-319.

Osborne, S. (2000). *Public-private partnerships: Theory and practice in international perspective*. Routledge.

Ossewaarde, M. R. (2007). The new social contract and the struggle for sovereignty in the Netherlands. *Government and Opposition*, *42*(4), 491-512.

O'Shaughnessy, N. (2001). The marketing of political marketing. *European journal of marketing*, *35*(9-10), 1047-1057.

Pachirat, T. (2015). The tyranny of light. *Qualitative and Multi-Method Research: Newsletter of the American Political Science Association's QMMR Section*, 13(1), 27-31.

Paddison, R. (1993). City marketing, image reconstruction and urban regeneration. *Urban studies*, *30*(2), 339-349.

Pasquinelli, C. (2011). 14. Place branding and cooperation: Can a network of places be a brand? *Brands and branding geographies*, 230.

Piotrowski, S., Grimmelikhuijsen, S., & Deat, F. (2019). Numbers over narratives? How government message strategies affect citizens' attitudes. *Public Performance & Management Review*, *42*(5), 1005-1028.

Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting and Management*, *8*(3), 238–264.

Slovic, P., & Peters, E. (2006). Risk perception and affect. *Current directions in psychological science*, *15*(6), 322-325.

Smith, N., & Leiserowitz, A. (2014). The role of emotion in global warming policy support and opposition. *Risk Analysis*, *34*(5), 937-948.

Sjöberg, L. (2007). Emotions and risk perception. *Risk management*, *9*(4), 223-237.

Soule, S. A., & King, B. G. (2008). Competition and resource partitioning in three social movement industries. *American Journal of Sociology*, *113*(6), 1568-1610.

Stevens, V. (2018). *Individual learning behaviour in collaborative networks.* This is a chapter. In Dunlop, C., C. Radaelli, and P. Trein, *Learning in Public Policy: Analysis, Modes and Outcomes*. Basingstoke, United Kingdom: Palgrave-MacMillan

Stok, J., Eshuis, J., & Klijn, E. H. (2008). Branding kan helpen bij herontwikkeling van wijken. *Tijdschrift voor de Volkshuisvesting*, *5*, 24-9.

Stoker, G. (1998). Governance as theory: five propositions. *International social science journal*, *50*(155), 17-28.

Strömbäck, J., Esser, F., & Lundby, K. (2009). Shaping politics: Mediatization and media interventionism.

Tarnovskaya, V., Elg, U. and Burt, S. (2008), "The role of corporate branding in a market driving strategy", International Journal of Retail & Distribution Management, Vol. 36 No. 11, pp. 941-65.

Teodoro, M. P., & An, S. H. (2018). Citizen-based brand equity: A model and experimental evaluation. *Journal of Public Administration Research and Theory*, *28*(3), 321-338.

Therkelsen, A., Halkier, H., & Jensen, O. B. (2010). Branding Aalborg: Building community or selling place? In *Towards effective place brand management* (pp. 136-155). Edward Elgar Publishing.

Tufekci, Z. (2013). "Not this one" social movements, the attention economy, and microcelebrity networked activism. *American behavioral scientist*, *57*(7), 848-870.

Van der Linden, S. (2014). On the relationship between personal experience, affect and risk perception: The case of climate change. *European journal of social psychology*, *44*(5), 430-440.

Vinæs Larsen, M., & Leth Olsen, A. (2020). Reducing Bias in Citizens' Perception of Crime Rates: Evidence. From a Field Experiment on Burglary Prevalence. *The Journal of Politics*, *82*(2), 747-752.

Wagenaar, H., & Cook, S. N. (2003). Understanding policy practices: action, dialectic and deliberation in policy analysis. *Deliberative policy analysis: Understanding governance in the network society*, 139-171.

Walker, E. T., & McCarthy, J. D. (2010). Legitimacy, strategy, and resources in the survival of community-based organizations. *Social problems*, *57*(3), 315-340.

Weick, K. (1995). Sensemaking in organizations. London: Sage.

Weick, K. E. (2007). The generative properties of richness. Academy of management journal, 50(1), 14-19.

Xie, B., Brewer, M. B., Hayes, B. K., McDonald, R. I., & Newell, B. R. (2019). Predicting climate change risk perception and willingness to act. *Journal of Environmental Psychology*, *65*, 101331.

Yanow, D. (2003). Interpretive Empirical Political Science: What Makes This Not a Subfield of Qualitative Methods. Qualitative Methods: Newsletter of the American Political Science Association Organized Section on Qualitative Methods 1 (2), 9–13

Yanow, D., & Tsoukas, H. (2009). What is reflection-in-action? A phenomenological account. *Journal of management studies*, *46*(8), 1339-1364.

Yi-Baker, H. C. C. (2019). Cultivating Civic Engagement at the Intersection of Community College and Asian American Pacific Islanders: Understanding and Supporting AAPI Students' Civic Learning at the two-year Institutions.

Zenker, S., & Braun, E. (2017). Questioning a "one size fits all" city brand. *Journal of Place Management and Development*.

7 | Appendix Survey

Introduction (in Dutch)

Beste respondent,

Hartelijk dank voor jouw deelname aan dit onderzoek van de Universiteit Utrecht. De vragenlijst duurt ongeveer 5 tot 10 minuten en bestaat uit 3 delen. Het onderzoek wil iets weten over hoe leerlingen aankijken tegen klimaatverandering.

De uitkomsten van dit onderzoek kunnen worden gebruikt voor een discussie over klimaatverandering met de docent.

De antwoorden zijn anoniem, naderhand verwijderd en uitsluitend bedoeld voor dit onderzoek.

Alvast veel dank voor het invullen.

Vriendelijke groet,
Peter Nafzger

Background questions

Gender (Man/Vrouw/Anders)

Leeftijd (15 t/m 19)

Education
- *V*MBO
- HAVO
- VWO

Political affinity
- Conservative
- Liberal
- Social democratic
- Religious party
- Green party
- Different

Control question (7-point scale)
Klimaatverandering is het grootste probleem van de 21e eeuw

Video Treatment
Er volgt nu een video van Greta Thunberg over het klimaat. Kijk deze helemaal af.

- Ik verklaar bovenstaande video tot het einde te hebben gezien.

Control question video group

Wie zag je in het filmpje?

- Greta Thunberg
- Barack Obama

Text Treatment (in Dutch)

Dit is geen oefening. Mijn naam is Greta Thunberg. We leven aan het begin van een grote crisis. Ons klimaat gaat stuk. Kinderen zoals ik stoppen hun opleiding om te demonstreren. Maar we kunnen dit nog steeds fixen. Jij kan dit nog stoppen. Om te overleven, moeten we stoppen met het verbranden van fossiele brandstoffen. Maar dit alleen is niet genoeg. Er zijn veel verschillende oplossingen. Maar wat helpt echt? Een boom zuigt CO2 uit de lucht, kost weinig en groeit vanzelf. Bomen zijn natuurlijke instrumenten om ons gebroken klimaat te repareren. Het bizarre is, dat we deze oplossing negeren. Het planten van bomen krijgt slechts 2% van al het geld dat we gebruiken om ons klimaat te redden. We geven 1.000 keer meer geld uit aan subsidies voor fossiele brandstoffen. Dus wat moeten we doen? We moeten de natuur herstellen.

- Ik verklaar bovenstaande tekst gelezen te hebben.

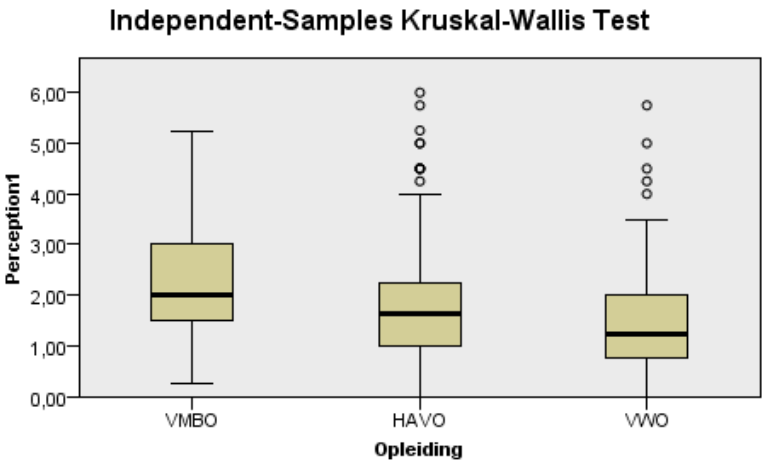
Control question Text group

Wat was de oplossing volgens de tekst voor het klimaatprobleem?

- Het planten van bomen
- Kernenergie
- Kernfusie

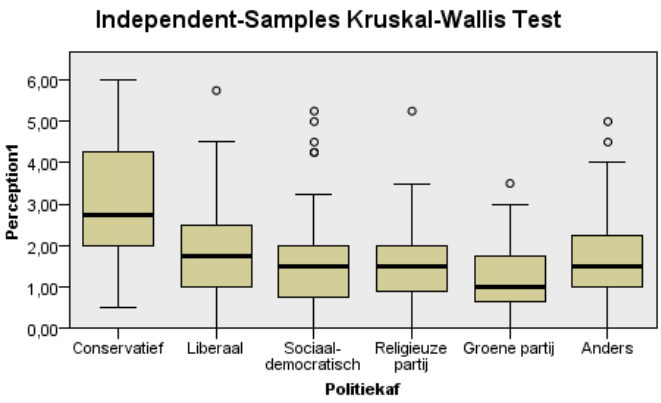
Appendix B – Balance check 'Kruskal-Wallis' Tests

Perception



Total N	504
Test Statistic	11,077
Degrees of Freedom	2
Asymptotic Sig. (2-sided test)	,004

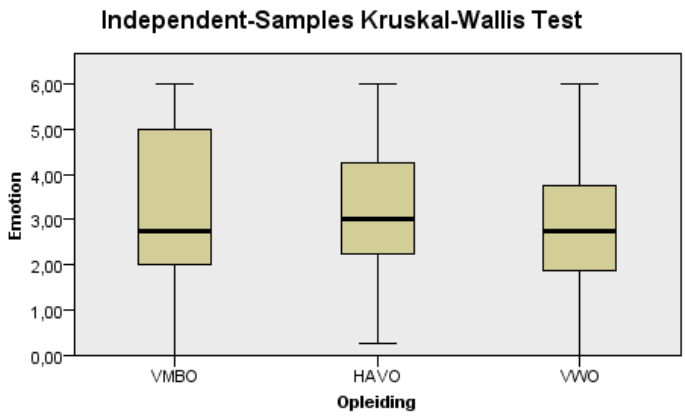
1. The test statistic is adjusted for ties.



Total N	507
Test Statistic	44,954
Degrees of Freedom	5
Asymptotic Sig. (2-sided test)	,000

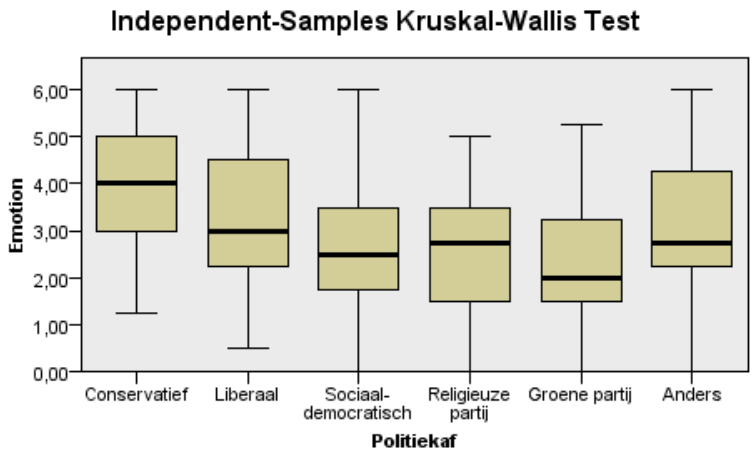
1. The test statistic is adjusted for ties.

Emotion



Total N	502
Test Statistic	9,128
Degrees of Freedom	2
Asymptotic Sig. (2-sided test)	,010

1. The test statistic is adjusted for ties.

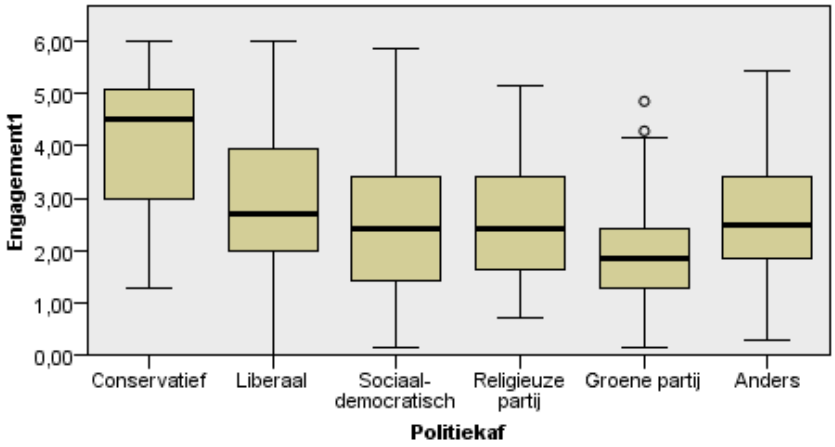


Total N	505
Test Statistic	35,217
Degrees of Freedom	5
Asymptotic Sig. (2-sided test)	,000

1. The test statistic is adjusted for ties.

Engagement

Independent-Samples Kruskal-Wallis Test



Total N	371
Test Statistic	38,493
Degrees of Freedom	5
Asymptotic Sig. (2-sided test)	,000

1. The test statistic is adjusted for ties.