

The grass could be greener

How nudging could influence festivalgoers' green choices

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Abstract

Festivals are cultural events that have seen an immense growth in popularity. An increased popularity, despite the adverse consequences for the environment caused by organizing festivals and visiting them, including excessive carbon emissions, water use and waste production. A possible way to decrease these effects could be through green nudging visitors towards greener choices. After a theoretical review of previous research, a research question and four hypotheses were formulated. To analyze these, an experiment was conducted in the form of a survey. Out of the 180 participants, 156 participants completed the experiment. None of the tests on the participant data yielded any significant results. Hence there is no proof that any of the hypotheses can be accepted. A recommendation for future research includes conducting more research into effective nudges to steer visitor behavior, as it remains necessary to decrease festival carbon footprint.

Keywords: green nudging, festival sustainability

Preface

This thesis is written to complete my Communication and Information Sciences Master at Tilburg University. Between August 2022 and January 2023 I was researching and writing this thesis.

From the first moment I learnt about nudging during the course of Political Philosophy during my Bachelor degree, I became enamored with the concept. While researching the background and different forms of nudges, I remembered the ten years of experience I have built working at and visiting festivals and how every festival organizer I have come into contact with struggles so much with trying to decrease their carbon footprint. As I would like to contribute to environmental prosperity, I decided this was the context I wanted to research.

I would like to take this opportunity to thank my first supervisor, Dr. Joost Schilperoord, and my fellow circle members for all their advice and guidance throughout this process. I would also like to express gratitude towards my second supervisor, Dr. Connie de Vos, for evaluating my work.

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1. Introduction

Music festivals have globally become an immensely popular way to enjoy culture during live performances (Adongo & Kim, 2018). To give an idea, in 2019 there were more than 190 one-day music festivals in Amsterdam alone (Soetenhorst & Khaddari, 2019). Some music festivals are known to attract a significant amount of visitors. For example, during the separate festivals of Amsterdam Dance Event in 2016 there were over 285,000 visitors (Filipov, 2019).

However, the growth in popularity of this type of cultural event has not occurred without adverse consequences to the environment (Dirksen & de Fouw, 2016). Fields are destroyed under people's trampling feet, festivals produce mountains of plastic waste, while building a festival terrain before a single visitor has even arrived produces huge amounts of carbon dioxide emissions (Brennan et al., 2019). These are just some of the direct effects; we have not even mentioned the indirect consequences that occur, such as the destroyed fields contributing to the extinction of wildlife, excessive plastic waste being connected to pollution (e.g. of oceans and rivers) and emissions leading to global warming and detrimental atmospheric levels (Negruşa et al, 2016; Zou et al., 2021). The number of festivals and their popularity in combination with these adverse consequences are the reasons why one-day music festivals have been selected as the context for this thesis.

Festivals are built the way they are in order to take visitor's wishes into consideration (In It Live, 2021). For example, festival organizers often want to enhance the visual impact of the artists' shows and therefore add measures to increase fun, for instance with fireworks, confetti and merchandising (e.g. by handing out glasses or shooting shirtguns into the public). While these measures do increase enjoyment, they also increase the negative effects mentioned above. Also, visitors often want the festivals to be close to nature for atmosphere and aesthetic value, but the way festivals are organized currently damages the ecosystem (Alonso-Vazquez et al., 2018; Robertson et al., 2018).

So there appears to be a clear argument for organizers to take measures to make festivals more sustainable. Some initiatives have already been taken by a few festival organizers to minimize the environmental effects (van de Voort & Schurink, 2017). The initiatives include using a system with ‘recycle tokens’ and hard plastic alternatives, instead of single use cups in order to combat the previously mentioned plastic pollution (*Laatste Info, Bereid Je Goed Voor Op Oranjabloesem!*, n.d.). Another method is only serving vegetarian food to help reduce the negative effect that the meat industry has on the environment (Oerly et al., 2022). The effectiveness of these initiatives in minimizing festival carbon footprint has not yet been widely researched (Brennan et al., 2019). Moreover, many festivals still have a long way to go before becoming more sustainable (NU.nl, 2022). The primary reason for the lack of sustainability is the large number of visitors festivals attract and the behavior they exhibit at these events (Alonso-Vazquez et al., 2018). The issue is therefore how to get visitors to change their behavior towards a greener path. This could be accomplished through effective communication aimed at raising people’s awareness of the grave environmental consequences of festivals. Increasing people’s awareness of these consequences could form the key to encouraging more pro-environmental behavior among festival visitors.

A possible way to inspire people towards making greener choices through communication is *nudging*. Nudging is a communicative intervention that allows both sender and recipient to bypass long-term attitude change and intention formation by targeting instead on behavioral change, i.e. urging people to behave in a certain way at the very moment this behavior is to be performed (Thaler & Sunstein, 2008). Nudges themselves are small communicative devices that are meant to function as choice interventions in contexts of decision-making to the effect of framing one option from a set of alternatives as the ‘preferred’ choice without forcing a choice or removing options in a specific moment (Marchiori et al., 2017). A concrete example of a nudge currently in practice is airports having painted flies in

urinals (Ingraham, 2017). Urinals were often messy, so the cleaning manager wanted to give people something to aim at. Since the flies were implemented, spillage decreased significantly.

When people are faced with either sustainable options or not sustainable options, being able to influence how they choose may have a large impact on society (Gifford et al., 2011). This is the case, because sustainable options being chosen more often could indirectly lead to environmental prosperity. *Green nudges* exist to help sustainable options being chosen more often (Frischmann, 2021). For instance, previous research into green nudges showed significant results when green nudges were implemented in grocery stores to steer customers towards more sustainable options (Wee et al., 2021).

The impact green nudging may have on people's choices in the context of festivals has thus far not been studied systematically, i.e. through experimental research (Bär et al., 2022; Brennan et al., 2019). The research into the behavior of the public at festivals is becoming more urgent, because it has the potential of steering a large amount of people towards green choices. Every festival visitor has been faced with choices like how to travel to the festival, which drink to get from the bar, whether to buy reusable items like ear buds or raincoats or to grab free disposable options. Getting visitors to make green choices has the potential of increasing the sustainability of festivals.

The use of emoji as a nudging form may align well with the young aesthetic music festivals tend to have, or at least aim for. However, their use and effects as nudging forms in festival contexts has not been researched to date. That is why emoji are used as one of the nudging forms in this experimental research.

Other studies have shown that using the color green, because of its associated positivity stimulates product choice, which is why it was selected as the other nudging form in this experimental research (Plazibat et al., 2021; Samaranayake & Thennakoon, 2021).

This thesis attempts to look at how to apply nudges that are usually employed in digital environments to the context of festivals, which is the gap in literature that was identified. Furthermore, this thesis aims to continue the body of work of nudge reviews. The main objective is to discover whether the festival carbon footprint can be reduced by influencing visitors' choices. Sustainability is an increasingly urgent subject, as climate change and biospherical collapse are becoming an imminent and unavoidable fact (Barry, 2014). Corporations, policy makers, event organizers and individuals could benefit from more knowledge about how to act sustainably and how to promote sustainable behavior. That is why these considerations have led to the following research question:

To what extent can emoji and the color green be used as nudges to steer visitor behavior at festivals towards green choices, and to what extent does their attitude towards sustainability influence this relationship?

2. Theoretical framework

This theoretical framework explains the terms relevant to this thesis with the use of previous research. The terms which have been named previously in this thesis consist of *music festival visitors* and *nudges*. These will be discussed further by explaining the overarching concepts from which they stem, including music festivals, visitor behavior and persuasive communication. Then green nudging and the nudging forms used are explained further. In addition the connection between the proposed variables is expounded upon.

2.1. Music festivals

People enjoy culture in different ways and one particularly popular way is by visiting a cultural event (Elisa et al., 2022). The cultural event researched in this thesis specifically is known as a music festival, which is where people go to enjoy loud sound (Fremaux & Welch, 2017). The modern music festival is described by Smith et al. (2022) as drawing an international audience towards multiple stages in public spaces displaying music performances. It is widely believed that the first “modern” music festival took place in the USA in 1967 (O’Gorman, 2022), but the Netherlands already hosted the first version of a music festival in 1947 (*Our history – Holland Festival*, n.d.). Currently music festivals have grown to become the most popular cultural event (Smith et al., 2022), illustrated by the organization of more than 190 festivals in Amsterdam during 2019 alone (Soetenhorst & Khaddari, 2019).

2.1.1. Visitor behavior

The ideal of music festivals, offering an arena to enjoy the arts together with a large, convivial public, can be seen as having an antithetic effect on this public. Visitors of these festivals famously behave rudely, unsustainably and flout societal norms (Alonso-Vazquez et al., 2018; Robertson et al., 2018). While the main reason why festival environments have this antisocial

effect on people's behavior is unclear, previous research identifies alcohol and intercultural difficulties as possible causes (Smith et al., 2022).

Festival organizers need to address how they can use communication to influence visitors' behavior to become greener and more aware of their surroundings. This is known as pro-environmental behavior, when individuals make conscious choices to act sustainably as opposed to choosing the unsustainable alternative (Alonso-Vazquez et al., 2018). Some initiatives have already been taken by festival organisers to improve sustainable behavior at festivals (Richardson, 2018). These initiatives include using vacuum bathrooms instead of generic Dixi's to limit water wastage (Alonso-Vazquez & Ballico, 2021), providing more sustainable travel to the festival (Brennan et al., 2019) and offering plant-based food alternatives (Verhoeven, 2021). Nevertheless in 2022 music festivals still have a poor image and still produce largely negative effects on the environment (Hutte et al., 2022; Raffay-Danyi & Formadi, 2022).

2.2. Persuasive communication

Communicating sustainability goals of the festivals in a certain way could be the key to encouraging visitor pro-environmental behavior and to changing festivals' image and carbon footprint successfully. When sustainability is a goal for festival organizers, applying persuasive communication could generate more pro-environmental behavior by festival visitors. Cialdini (2006) describes persuasive communication as weapons one can use to stimulate people to take a specific action. Persuasive communication is a form of social engineering, which is the overarching term for managing behavior by altering the environments in which people are expected to make decisions (Frischmann, 2021). This approach is intended to influence people's attitudes and beliefs consistently in order to change how they choose and act (Cialdini, 2006). It is an insistent approach that demands repeated exposure to be effective. For example,

by using persuasive communication with consumers to encourage them to make sustainable purchase choices, Castro-Santa et al. (2023) found that indicating how green these alternatives are, provoked more green choices being made. An example from this research was when an eco-label on a product led to it being chosen more often than a product without this label. The eco-labelled product was even experienced by people that chose it as performing better than the not green alternative.

Persuasive communication could also consist of displaying ‘social proof’ where a choice is framed as having been selected by a large group, e.g. a magazine subscription promotional message presenting how many subscribers they already have. Another possible method of persuasive communication could be using ‘authority’ to get people to choose what you want them to. When people hear what they are supposed to do from what appears to be an established authoritative source, it can lead to them following an instruction without reflection (Cialdini, 2006).

Notwithstanding the occasional effectivity of these methods, the approach of persuasive communication to encourage people to act in a certain way has its limitations, including people becoming more able to question whether they should be choosing an option or whether they are being influenced by a persuasion tactic (Cialdini, 2006). Another limitation is that persuasive communication expects people to act rationally and follow direction from institutions, while individual behavior often deviates from expectations as people act in their own self-interest (Damgaard, 2020).

2.3. Nudging

Nudges are small communicative devices used in contexts where people are offered choices to influence their behavior in a single choice moment. They were developed by Thaler and Sunstein (2008) as a way to instigate behavioral change. Nudging acts on the intuitive system

instead of trying to change the rational system of the decision-maker, which is why they act as a bypass of extensive attitude change as they are only applied in moments when behavior is triggered (Bonini et al., 2018). In this way nudging differs from traditional persuasive communication as it aims to affect people's choices and behavior at a specific moment, instead of altering how they approach choices in general (Damgaard, 2020). Nudging does however find its history in persuasive communication and is as such a newer form of social engineering (Frischmann, 2021).

Their goal is to guide people towards making a preferred choice in that single moment by framing these choices as 'more desirable' or 'responsible' without forcing a choice or removing options (Marchiori et al., 2017). Removing choices or significantly altering the choices offered is known as *hard* regulation, while nudges are seen as *soft* interventions (Damgaard, 2020). A preferred choice consists of one that benefits both individual and societal wellbeing. An example of how this works, is when a subway station that has stairs and escalators at exit points installs piano keys in the stairs to get people to move more and make exercise more fun. In this example the piano stairs act as the nudge, because taking the stairs is the preferred choice in order to improve people's health. The nudge here is used to encourage people to choose taking the stairs in that station and not in all situations where an individual has the choice between taking the stairs or an escalator.

Another characteristic of nudges is that they cannot include an economic incentive, as this is part of hard regulation, e.g. using subsidies to stimulate certain choices (e.g. cheaper gym subscriptions for university students) or by applying taxes to discourage certain choices (e.g. on tobacco). Also nudges should often have low implementation costs, as this allows them to be soft interventions, e.g. how nudging the purchase of healthier options by placing these at eyelevel and unhealthy options at a lower level in a supermarket has low implementation costs (Marchiori et al., 2017).

2.4. Green nudging

Green nudging is when nudges are used to encourage people to make choices that benefit the environment (Bonini et al., 2018; Wee et al., 2021). As climate change and other environmental issues such as air pollution are imminent issues that affect everyone (Barry, 2014; Wee et al., 2021), being able to influence people's behavior to become more sustainable is advantageous according to Bonini et al. (2018). Specific nudges for green choices could include painting arrows towards more sustainable products in a grocery store (Wee et al., 2021) or a utility offering green energy as its default and letting customers explicitly opt out if they do not want to have green energy (Shubert, 2017). These nudges indicated significant results of people actually choosing greener. In short, whenever nudging is aimed towards greener choices being made, the nudges are classified as green nudges.

Some research has already been carried out into how green nudges could be implemented at festivals, but there has not been an experimental study yet (Bär et al., 2022; Brennan et al., 2019). These studies included post-event analysis of how visitors responded to festival organisers implementing green initiatives such as nudging visitors towards separate rubbish bins for active participation in recycling waste (Brennan et al., 2019) or nudging visitors towards taking public transport to travel to a festival (Bär et al., 2022). Bär et al. (2022) and Brennan et al. (2019) found that these initiatives stimulated visitors to make green choices, but without a control group these findings cannot be interpreted as significant.

Green nudging can be accomplished through various forms, similar to regular nudging. Nudge forms often experience a decrease in popularity due to their diminished effectivity after repeated use (Damgaard, 2020). This is why newer forms have to be developed constantly and current popular forms of nudging include using emoji and colors.

Emoji nudges are popular in digital settings and are upcoming in physical contexts. An example of a new physical context is using emoji on labels of healthy food options such as fruit to stimulate children to eat healthier (Mecheva et al., 2021). Using the color green as a nudge form has also been used in digital settings. Similarly to emoji nudges, using the color green as a nudge has seen increased use in physical settings (Samaraweera et al., 2021). An example of how this nudge form has been used in physical settings, was when it was used to stimulate people to choose greener transport options such as public transport instead of cars (Solbakk, 2020).

Previous nudge forms have been researched extensively in the past, such as painting arrows on the floor of grocery stores to encourage customers to buy certain products (Wee et al., 2021). Research shows that certain nudges are more effective in specific circumstances than in others and as mentioned previously that repeated use can reduce their effectivity (Damgaard, 2020). As these nudge forms (emoji and color) are more recent types, they could counteract the effects of having seen nudges too often.

These nudge forms have also been selected, because of how easily they can be adapted to festival communication and therefore are predicted to be more effective, considering their suitability to the context. Festivals often use colorful signage and marketing where adding emoji and other colors incurs relatively low implementation cost as it is easy to incorporate these nudge forms (Morgan, 2008). In addition, a festival environment is often fast-paced as visitors want to see as much of the terrain and the performances as possible (Smith et al., 2022), which is why a non-verbal nudge is expected to be a more effective method to nudge than more time-consuming nudge types. A more time-consuming nudge could be anything that demands people to obviously take more time engaging with it, e.g. by assisting people through personalized information incorporated in a long text that they can read to help them make a choice.

2.4.1. *Emoji*

Emoji nudges are when emoji are used to nudge people towards doing something that is beneficial for themselves (Wiederhold, 2022). Emoji are a popular current communication method. They are small pictograms of facial expressions (e.g. smiling, crying, angry, etc.), nature (e.g. weather phenomena, plants, animals, etc.) and items (e.g. clothing, vehicles, flags, etc.) (Godard & Holtzman, 2022). Especially the younger audience, aged 18 to 30 years old, uses these graphic cues actively (Zilka, 2021). As this age group is the one that festivals target and predominantly welcome (Leenders et al., 2005; Smith et al., 2022), using a nudge form that is already popular with them is predicted to be effective. A few examples of where the effectivity of emoji nudges with a younger audience was tested, were in healthcare (Wiederhold, 2022), commerce (Seabra Pinto et al., 2022) and education (Plak et al., 2022). Emoji nudges are mainly used in digital settings, where they often produce significant effects (Klein Gebbink, 2022). An example from this research on how emoji nudges could work was when a ‘happy emoji’ (e.g. smiley 😊) indicated low screentime, which was used to encourage people to stay off their phones.

As ‘happy’ emoji emit positive associations, they are highly suitable to nudge people towards more sustainable options (Grodeck & Grossman, 2022; Pfeifer et al., 2022). The associated positivity acts as encouragement to choose one option as opposed to another. Emoji nudges especially appear to work with a younger, more digitally literate audience (Klein Gebbink, 2022). This thesis aims to research how emoji nudges would work in a festival setting, for example labelling more sustainable options at the food and drink vendors with emoji stickers indicating positivity.

The emoji used in the experiment for this thesis are *thumbs up* and *party hat*, because they are sufficiently backed by previous research to perform as effective nudges. The choice for non-face emoji was based on research by Godard and Holtzman (2022), who stated that

non-face emoji are more popular in Western Europe which is where the sample was aimed to be collected from. A *thumbs up* emoji as nudge has been used in various studies to date, all claiming its effectivity in stimulating certain choices to be made, because of the positive connotation it has (Grodeck & Grossman, 2022; Ji et al., 2022). An example where *thumbs up* emoji were used to nudge, is in Ji et al.'s (2022) study, where they were used to indicate approval towards low carbon emissions of new vehicles. The *party hat* emoji has also recently been used to indicate positive emotion (Gawne & McCulloch, 2019; Pfeifer et al., 2022), and so will be researched in this thesis to see whether its positive connotations translate to nudge communication. As both emoji are expected to have such positive connotations, they are used interchangeably in the experiment. The emoji used are portrayed in Figure 1.

Figure 1

Emoji Used in this Thesis



Based on previous research and the assumptions outlined above, the following hypothesis was formulated:

H1: The use of positive emoji as nudges will stimulate green choices more than when the nudge is absent.

2.4.2. Green

Using color as a nudge has also shown promising results in research (Kay et al., 2023; Phillips, 2017; Tijssen et al., 2017). Color has been used in nudging young people previously (Peng et al., 2022), and so it is expected that it is an effective nudge in this setting as well. Different fields discuss the effectivity of the color green specifically, such as in psychology (Michels et al., 2021; Michels et al., 2022), carbon usage (Castro-Santa et al., 2023) and nourishment (Lin & Nayga, 2022; Oh et al., 2022). The color green has been used previously, because it is associated with positivity and so is predicted to stimulate product and decision choice (Plazibat et al., 2021; Samaranyake & Thennakoon, 2021). An example of how the color green can be used as a nudge was used in the study by Lin & Nayga (2022), where they placed a description above sustainable products in green lettering stating “this product is for green shoppers” to stimulate customers to purchase these products.

The color green has even been associated with spending more money on a product using green in its marketing (Samaraweera et al., 2021). Green options often cost more (Roozen et al., 2021), which is why the color green is predicted to motivate more people to opt for the green choice in the experiment. Therefore the following hypothesis was formulated:

H2: The use of the color green as a nudge will stimulate green choices more than when the nudge is absent.

2.5. Combining nudges

Using a combination of more than one nudge in communication has previously shown greater effectivity than the application of a singular nudge (Howley & Ocean, 2021; Timmons et al., 2022). As using emoji is predicted to stimulate green choices and using the color green is predicted to stimulate green choices, it is predicted that when the combination of two nudges

(the color green and emoji) is present, people will choose the sustainable option more often than when only one nudge or no nudge is present. As a consequence of this prediction, the following hypothesis was formulated:

H3: The combination of both nudges will stimulate green choices more than when one nudge or both nudges are absent.

2.6. Sustainability attitude

People have been found to have a growing awareness of pro-environmental behavior (see, e.g., Alonso-Vazquez & Ballico, 2021; Dodds et al., 2020; Gifford et al., 2011). These studies describe how people are confronted increasingly with environmental decline (e.g. through news and internet articles) and find themselves consciously trying to make changes in their lives to avoid contributing to this decline (e.g. by recycling or choosing not to eat meat). Young people are growing up with a continuous flow of pro-environmental messaging and so often develop a positive attitude towards sustainability (Grønhøj & Hubert, 2021).

However previous research found this attitude not to transfer to visitor behavior at festivals, as some studies showed visitors to still behave unsustainably even with this growing awareness of their surroundings (Alonso-Vazquez et al., 2018; Robertson et al., 2018).

Later studies, like Brennan et al. (2019), found that contrary to previous belief green nudges at festivals did stimulate pro-environmental behavior and Alonso-Vazquez and Ballico (2021) found visitors with a positive attitude towards sustainability to display more pro-environmental behavior. That is why it is predicted that visitors' attitude towards sustainability could reinforce nudge effectivity, which is why the following hypothesis was formulated:

H4: The effect of the nudges on green choices is positively influenced by participants' attitude towards sustainability.

2.7. Choices

Green choices are interpreted as moments when participants choose the more sustainable option when offered two alternatives. The choices in the experiment are based on real music festival visitor experiences and as such contribute to the tangibility of the experiment (Morgan, 2008). Forming a more tangible experiment environment allows participants to reason as they would in reality.

Instigating pro-environmental behavior at festivals is predicted by previous research to be more effective when motivated by multiple communicative methods, e.g. when the festival organizers include sustainability in their mission statement, in signage and in offering green consumption options in order to remind visitors about green actions (Dodds et al., 2020). The experiment in this thesis therefore includes a mission statement that explains the sustainability goals of the festival, the availability of green choices and nudges in signs to encourage green choices being made.

The choices included in the experiment comprise a festival journey where participants are faced with decisions like how to travel to the festival or which bathroom to use. To help reflect a real life situation, the experiment houses a monetary difference between options with and without nudges where the greener choice will always carry an additional cost as this is often seen in reality (Roozen et al., 2021). The green choices consist of existing products and services, where the different options are considered secondary to whether the nudges stimulate green choices being made. An example of a choice participants were faced with is when they were asked to decide between Coca-Cola, commonly perceived as an unsustainable brand, and Fritz Kola, a recognized sustainable brand (Schmidt & Steenkamp, 2021).

3. Methods

3.1. Design

To test the hypotheses and answer the research question, a 2 x 2 within-subject design was used (Charnesset al., 2012), with ‘emoji nudge’ (present or absent) and ‘color nudge’ (present or absent) as independent variables and ‘choice made by subject’ (green choice vs. not green choice) as the dependent variable. Subjects had to make eight of those choices (see below).

All four combinations of the factors were shown to the participants during the experiment to measure their effects on the choices they made. The factors were manipulated per choice (emoji +/-color +, emoji +/- color -, emoji -/ color + and emoji -/ color -) and four different lists were created in order to vary the combination of choices and factor combinations so as to ensure each choice was accompanied by each possible combination. The reason to vary these combinations was to collect sufficient data on each condition and avoid bias. The lists are shown in Table 1 with presence of both nudges, with a ‘+’ indicating presence and a ‘-’ indicating absence.

Table 1

Nudge Distribution over the Choices

		List			
		1	2	3	4
Choice	Transport	Emoji +/-color +	Emoji +/-color -	Emoji -/color +	Emoji -/color -
	Ticket	Emoji +/-color -	Emoji -/color +	Emoji -/color -	Emoji +/-color +
	Locker	Emoji -/color +	Emoji -/color -	Emoji +/-color +	Emoji +/-color -
	Drink	Emoji -/color -	Emoji +/-color +	Emoji +/-color -	Emoji -/color +
	Ear buds	Emoji +/-color +	Emoji +/-color -	Emoji -/color +	Emoji -/color -

Food	Emoji -/color +	Emoji -/color -	Emoji +/color +	Emoji +/color -
Bathroom	Emoji +/color -	Emoji -/color +	Emoji -/color -	Emoji +/color +
Outerwear	Emoji -/color -	Emoji +/color +	Emoji +/color -	Emoji -/color +

Each list indicates to which nudge the participants were exposed per question in the experiment. As can be seen in Table 1 above, each participant was shown each combination of the two factors twice.

The context of the experiment was a journey through a festival where participants were first informed about the festival they were about to visit. Then they were taken on a tour through eight different choices. The choices consisted of transport (UberX or Green Uber), ticket (regular paper or bamboo paper), locker (to hire one or not), drink (Coca-Cola or Fritz Kola), ear buds (reusable or disposable), food (beef burger or beet burger), bathroom (Dixi or vacuum toilet) and outerwear (poncho or raincoat). All choices were based on circumstances found at existing festivals, being through examining Lowlands (*Belangrijke Informatie Over Je Bezoek Aan Lowlands*, n.d.), Oranjebloesem (*Laatste Info, Bereid Je Goed Voor Op Oranjebloesem!*, n.d.; *Pendelbussen, Huisregels, Nachtbloesem & Meer*, n.d.) and a festival organiser guide (In It Live, 2021). Through a short introduction before each choice the participants were led to a stimulus portrayed in the *Stimuli* section of this chapter, after which they were asked to make a choice.

3.2. Participants

180 people were recruited through social media platforms like Facebook, LinkedIn, Instagram and WhatsApp. This method is known as snowball sampling, where participants are selected randomly through availability (Leighton et al., 2021). As this thesis was held in Western Europe, the target audience consisted of Western Europeans. The experiment did not host an

age cut-off as people of every age enjoy festivals and therefore all ages could provide valid input (Salvador et al., 2022).

Of the 180 participants, only 156 finished the entire survey. This means that 24 participants left the survey before answering all the questions and are therefore excluded from analysis. In Table 2 the distribution of the participants who completed the survey per language and list is shown.

Table 2

Participant Lingual Distribution

		List				Total
		1	2	3	4	
Language	Dutch	31	30	30	29	120
	English	8	9	10	9	36
	Total	39	39	40	38	156

Of the participants, 55 people identified as male, while 99 people identified as female and 2 people either identified as non-binary or preferred not to say. The age range was 18-87 years old. On average, the participants were 26,28 years old (SD = 8.435). When looking at educational background, 71.8% of the participants was studying (or had studied) at university level, 19.9% at HBO level, 3.8% at MBO level, 4.5% at secondary school level and less than 1% preferred not to say.

3.3. Stimuli

The participants were exposed to the stimuli and choices by means of a virtual tour of a hypothetical festival. The nudges were portrayed in the same way as how they would look on

signs at the different vendors and these signs were based on corporate designs of Oranjbloesem (*Laatste Info, Bereid Je Goed Voor Op Oranjbloesem!*, n.d.; *Pendelbussen, Huisregels, Nachtbloesem & Meer*, n.d.) and Lowlands (*Belangrijke Informatie Over Je Bezoek Aan Lowlands*, n.d.). These names were not used throughout, but brand names associated with either sustainability or unsustainability were used to give participants a clear idea of the decisions they were making, e.g. Coca-Cola vs. Fritz Kola (Schmidt & Steenkamp, 2021; Errichiello & Zschiesche, 2022).

Before beginning the experiment, participants read the festival's mission statement to be sustainable; they were informed that the payment method at the festival would be by using tokens and they were informed about the price of tokens (a sheet of ten tokens cost €30,-). Then they started the experiment and were shown the choices as the tour progressed. How the stimuli were presented is explained using the example of the ear bud choice. First the participants read a short introduction leading up to the stimulus of each choice. For ear buds this was:

Once you all got your drinks, you head over to a stage for your first performance of the day. Their sound system is insane! You can even feel the bass drumming through your chest, which you find a bit worrying. Luckily you spot an earplug vendor. You see the following options on their sign:

On the same page they were exposed to a stimulus and under this image the question read *Which pair do you buy?* with two ways to answer (disposable vs. reusable). The answer possibilities were randomised to help reduce answer order bias (Coney, 1977). Every query required an answer, before the participant could proceed with the next query. In Figure 2 examples of each nudge combination are displayed regarding the choice of ear buds.

Figure 2*Examples of Stimuli Used*

3.4. Measurements

Green choices were measured according to the choices participants made in the experiment. Participants could either choose green or not green options, and each choice was measured separately. The survey consisted of binary questions and therefore values for choices were either 0 (not green choice) or 1 (green choice).

Attitude towards sustainability and buying green products was measured by five 7-point Likert scale questions (1 = *strongly disagree*, 7 = *strongly agree*) ($\alpha = .91$, $\alpha = .74$) (de Jong et al., 2017; Nguyen et al., 2018; Rausch & Kopplin, 2021). These statements were used verbatim. Two examples of the statements included are: *I often think about the negative development of*

environmental situations and I am willing to pay more for a product which helps protect the environment.

3.5. Procedure

The experiment was conducted in Qualtrics (Qualtrics XM // Krachtige Experience Management Software, 2022), which assigned participants to one of the four lists randomly. Participants were first given some information about the aim of the thesis and then asked explicitly to confirm their participation. If they declined to participate, the survey ended. If they confirmed their participation, participants were led to the demographic questions about age, gender and education.

After these questions, they started the experiment by reading a mission statement on how the festival organizers were curious to see whether festival visitors would make the more green choice at every point during the festival. Participants were informed about token prices and that they had already acquired tickets to the festival. To reflect a real life situation, there was a monetary difference between options with and without nudges where the greener choice carried an additional cost. In the example of transport choice, *UberX* cost €20,- and *Green Uber* cost €25,-. These prices were based on routes entered in the Uber app (*Maak Omzet Als Chauffeur of Regel Meteen Een Rit | Uber Nederland*, n.d.). The participants were then shown the information mail with the pictograms used throughout the survey. The goal was to get them acquainted with the look and feel of the festival along with the choices they were going to make. The mission statement and corporate identity in the survey were also based on Lowlands (*Belangrijke Informatie Over Je Bezoek Aan Lowlands*, n.d.) and Oranjebloesem (*Laatste Info, Bereid Je Goed Voor Op Oranjebloesem!*, n.d.; *Pendelbussen, Huisregels, Nachtbloesem & Meer*, n.d.). The tour and different vendor points were based on the aforementioned existing festival organizers.

After being randomly assigned to one of the four lists, participants were led through a virtual tour of the festival with choices to be made at every point by textual storytelling (Liem et al., 2020). The text was the same for each participant, only the accompanying stimuli differed. The story led them to the next choice without introducing the options yet, for example before the transport choice, the introduction read:

It's finally time! The day of the festival is upon us. You know that the only way to get to the festival is by taking an Uber from Tilburg Centraal to the terrain in Hilvarenbeek. You discuss at home beforehand which one you're going to take with your friends.

Then participants as aforementioned were shown a stimulus and were required to make a choice. After the participants had completed the experiment, they answered questions measuring their attitude towards sustainability. This was done afterwards to gather more in-depth understanding of why participants answered during the experiment in the manner they did and to limit ante-bias (Rubin & Rubin, 2005).

At the end of the survey the participants were shown a short debriefing message in which they were thanked for their participation, given some more explanation about the aim of the thesis and asked to confirm their answers. In Appendix A and B the complete English and Dutch versions of the survey of list 3 are shown.

3.6. Statistical analysis

After data collection, each choice made by each participant was entered manually as individual cases into IBM SPSS Statistics 26 (*Downloading IBM SPSS Statistics 26*, n.d.). The data was analyzed by comparing how nudges affected green choices being made compared to the control group. This was done instead of comparing the participants as not every participant was exposed to every version of a given question and its accompanying stimulus. The relationship between the factors 'nudge' and 'choice' was analyzed by performing several χ^2 tests of

association (Field, 2018). To analyze whether the participants' demographic distribution affected choices, different descriptives were run in IBM SPSS Statistics 26. Additionally, log-linear regressions were performed to investigate the effects of the simultaneous exposure to both the Emoji and Color nudge (i.e. Hypothesis 3) and the effect of attitudes towards making green choices (i.e. Hypothesis 4). Finally, exploratory analyses were conducted on the effects of gender and language on green choices by performing several χ^2 tests of association.

4. Results

4.1. Hypothesis testing

4.1.1. Emoji nudge

To test the first hypothesis; *the use of positive emoji as nudges will stimulate green choices more than when the nudge is absent*, a χ^2 test of association was performed with *emoji nudge* (present vs. absent) and *choice* (green vs. not green) as variables. Table 3 shows the frequencies for each choice per nudge-condition.

Table 3

Observed and Expected Frequencies Choices per Emoji Nudge vs. No Emoji Nudge, together with standardized residuals

		Not green choice	Green choice	Total
No emoji nudge	Observed	343	282	625
	Expected	325.5	299.5	625.0
	Standardized Residual	1.0	-1.0	
Emoji nudge	Observed	307	316	623
	Expected	324.5	298.5	623.0
	Standardized Residual	-1.0	1.0	
Total observed		650	598	1248

The test revealed the association between *emoji nudge* (present vs. absent) and *choice* (green vs. not green) to not be significant, ($\chi^2 (1) = 3.249, p = .048$), which indicates that no support is found for Hypothesis 1. Based on the odds ratio, the odds of people choosing green was 1.25 times higher when an emoji nudge was present than when there was no emoji nudge present. However, this result is not significant.

4.1.2. Color nudge

To test the second hypothesis; *the use of the color green as a nudge will stimulate green choices more than when the nudge is absent*, a χ^2 test of association was performed with *color nudge* (present vs. absent) and *choice* (green vs. not green) as variables. Table 4 shows the frequencies for each choice per nudge-condition.

Table 4

Observed and Expected Frequencies Choices per Color Nudge vs. No Color Nudge, together with standardized residuals

		Not green choice	Green choice	Total
No color nudge	Observed	318	306	624
	Expected	325.0	299.0	624.0
	Standardized Residual	-.4	.4	
Color nudge	Observed	332	292	624
	Expected	325.0	299.0	624.0
	Standardized Residual	.4	-.4	
Total observed		650	598	1248

The test revealed the association between *color nudge* (present vs. absent) and *choice* (green vs. not green) to not be significant, ($\chi^2 (1) = .629, p = .428$), which indicates that no support is found for Hypothesis 2. Based on the odds ratio, the odds of people choosing green was 1.12 times higher when the color nudge was present than when it was absent. However, this result is not significant.

4.1.3. Both nudges

To test the third hypothesis; *the combination of both nudges will stimulate green choices more than when one nudge or both nudges are absent*, a log-linear regression was conducted to analyze the relationships between *emoji nudge* (present vs. absent), *color nudge* (present vs. absent) and *choice* (green choice vs. not green choice). The analysis produced a model that retained all effects: the three main effects of the variables, the three 2-way interactions, and the 3-way interaction. The saturated model had a likelihood ratio of $\chi^2(7) = 6.772$, with $p = .453$. Furthermore, the results indicated that excluding the 2-way interactions would not affect the fit of the overall model: $\chi^2(1) = .031$, $p = .861$. Partial associations indicated that (of course) the Emoji * Choice interaction was not significant ($\chi^2(1) = 3.247$, $p = .072$). The Color * Choice attitude interaction was not significant as well ($\chi^2(1) = .988$, $p = .320$). Additionally, the Emoji * Color attitude interaction was also not significant ($\chi^2(1) = .000$, $p = .995$, indicating that product choices (and their associations with green nudges) were not affected by the nudges. These results indicate no support for Hypothesis 3.

4.1.4. Sustainability attitude

For the last hypothesis, *the effect of the nudges on green choices is positively influenced by participants' attitude towards sustainability*, two new variables were computed. Firstly, a multiple components analysis revealed that the five items formed one component. See Table 5 for the component analysis.

Table 5

Factor Loadings and Communalities for the 5 Sustainability Attitude Items, for the only component extracted

		Factor loading component 1	Communality
Item	1	.867	.732
	2	.855	.752
	3	.797	.478
	4	.720	.639
	5	.691	.519

Based on the mean scores calculated with these 5 items, a categorical variable was computed that consisted of the means of each of the scale variables. On average, the participants showed a high agreement with the items measuring sustainability attitude, 5.44 (SD = .978). Based on the mean-frequencies the participants were distributed over three equal groups, with categories based on their sustainability attitude scores ‘low’, ‘medium’ and ‘high’.

Secondly, the *condition* variable (no nudge, emoji nudge, color nudge and both nudges) was recoded into *nudge* (present and absent).

A log-linear analysis was then conducted to analyze the relationship purported by the hypothesis between *sustainability attitude* (low, medium & high), *choice* (green choice vs. not green choice) and *nudge* (present vs. absent).

The analysis provided a model with the three main effects, three 2-way interactions, and one 3-way interaction. The saturated model had a likelihood ratio of $\chi^2(0) = 0$, with $p = 1$, and showed a significant overall interaction: $\chi^2(11) = 160.769$, $p < .001$. The analysis revealed that removing all three 2-way interactions would affect the fit of the model ($\chi^2(2) = .018$, $p = .991$). Partial associations indicated that the 2-way interaction Sustainability Attitude * Choice was not significant ($\chi^2(2) = 4.281$, $p = .118$); that the 2-way interaction Choice * Nudge was

not significant ($\chi^2 (1) = .003, p = .955$) and finally that the 2-way interaction Nudge * Sustainability Attitude was not significant ($\chi^2 (2) = 2.661, p = .264$). These results indicate no support for Hypothesis 4.

4.2. Exploratory analyses

4.2.1. Gender

To test whether there is an association between *gender* and *choice*, a χ^2 test of association was performed with *gender* (male vs. female) and *choice* (green choice vs. not green choice) as variables. Table 6 shows the frequencies per gender.

Table 6

Observed and Expected Frequencies Choices per Male vs. Female, together with standardized residuals

		Not green choice	Green choice	Total
Male	Observed	226	214	440
	Expected	228.2	211.8	440.0
	Standardized Residual	-.1	.2	
Female	Observed	413	379	792
	Expected	410.8	381.2	792.0
	Standardized Residual	.1	-.1	
Total observed		639	593	1232

The test revealed the association between *gender* (male vs. female) and *choice* (green vs. not green choice) to not be significant, ($\chi^2 (1) = .069, p = .792$), which indicates that no support is found for an association between these two variables. Based on the odds ratio, the

odds of people choosing green was 1.03 times higher when they were male as opposed to female. However, this result is not significant.

4.2.2. Language

To test whether there is an association between *language* and *choice*, a χ^2 test of association was performed with *language* (Dutch vs. English) and *choice* (green choice vs. not green choice) as variables. Table 7 shows the frequencies per language.

Table 7

Observed and Expected Frequencies Choices per Dutch vs. English, together with standardized residuals

		Not green choice	Green choice	Total
Dutch	Observed	503	465	968
	Expected	504.2	463.8	968.0
	Standardized Residual	-.1	.1	
English	Observed	147	133	280
	Expected	145.8	134.2	280.0
	Standardized Residual	.1	-.1	
Total observed		650	598	1248

The test revealed the association between *language* (Dutch vs. English) and *choice* (green vs. not green) to not be significant, ($\chi^2 (1) = .025, p = .874$), which indicates that no support is found for an association between these two variables. Based on the odds ratio, the odds of people choosing green was 1.02 times higher when they completed the experiment in Dutch as opposed to in English. However, this result is not significant.

5. Discussion and Conclusion

The growing popularity of festivals and their adverse consequences on the environment were the preliminary reasons for conducting this thesis. Yet, the extent to which festival organizers might be able to use the communication method of nudging to encourage pro-environmental behavior among their visitors was the eventual goal of this thesis. As previously researched forms of nudging have been found to be prone to decreasing effectivity after repeated implementation (Damgaard, 2020), emoji and color nudges were applied to a new setting: festivals. In this thesis, emoji were limited to the non-face emojis *thumbs up* and *party hat*, while *green* was selected as the color to be researched.

Previous festival research mainly focused on post-event analysis of festival visitors' pro-environmental behavior, while previous nudge research on emoji and colors mainly focused on digital application. Applying these nudge forms to the context of festivals is how this thesis aimed to close a gap in previous research. To investigate whether these nudge forms could affect visitor behavior, the following research question was formulated:

To what extent can visitor behavior at festivals be nudged with the color green and emoji towards green choices, and to what extent does their attitude towards sustainability influence this relationship?

After reviewing the existing literature in the field, four hypotheses were formulated that encompassed the predictions stemming from the theoretical framework.

5.1. Findings

To test the hypotheses, an experiment was conducted and completed by 156 participants. Hypothesis 1 stated *the use of positive emoji as nudges will stimulate green choices more than when the nudge is absent*. The χ^2 test of association did not produce significant results. Hypothesis 2 stated *the use of the color green as a nudge will stimulate green choices more*

than when the nudge is absent. The χ^2 test of association did not produce significant results. Hypothesis 3 stated *the combination of both nudges will stimulate green choices more than when one nudge or both nudges are absent.* The log-linear regression did not produce significant results. None of the hypotheses are supported and these results therefore imply that the chosen nudge types did not nudge visitors in this participant group towards green choices.

Hypothesis 4 stated *The effect of the nudges on green choices is positively influenced by participants' attitude towards sustainability.* The log-linear regression did not produce significant results. The hypothesis is not supported and this result therefore indicates that sustainability attitude did not influence whether visitors made green choices. Further analysis of other possible predictors (*gender* and *language*) also did not present any significant associations, therefore these results indicate that gender and language also do not influence more green choices being made.

5.2. Interpretation of the results and recommendations for future research

The lack of significant results could be due to different reasons. Perhaps the nudge forms used in this thesis are not suitable for nudging festival visitors, as they are usually used in digital contexts (Klein Gebbink, 2022; Samaraweera et al., 2021). Applying emoji and color nudges to a festival setting might just not be effective in general. The results indicate that these nudge forms have not been applied to festival contexts yet for a reason: they appear not to work. Other nudge forms that have been tested previously might be able to produce significant results, therefore future research into which forms are more suitable is recommended. Specifically, research into which nudge forms produce strong sentiment could lead to finding more predictive factors. These might in turn be more effective to use in future iterations of the experiment conducted in this thesis. A future research question could then be *to what extent do people feel strongly about different nudge forms.* Once that research has been completed, the

experiment could be conducted again using the nudge forms found to inspire the strongest sentiment.

One option for future research would be to limit the number of nudge forms used, as it could have been the case that mixing and combining the three nudges (party hat emoji, thumbs up emoji, green color) led to them not being as effective as when only one had been employed consistently throughout. Thus, a follow-up research question could be *to what extent is a specific nudge form able to nudge festival visitors towards green choices*. This research question could be examined using different nudge forms. To investigate the effect of nudging on festival visitors more fully, a field study might be able to yield more meaningful findings. Nudges are supposed to act in moments when behavior is triggered, which is why applying nudges to real-life settings might show significant results.

In line with previous research, the findings of this thesis indicate that sustainability attitude does not affect pro-environmental behavior at festivals (Alonso-Vazquez et al., 2018). Perhaps this is because the urgency of the situation was not made clear enough. As the participants may not understand enough what the grave consequences of visiting festivals might be, they might have been inclined to apply other criteria when answering the questions. In this way they could have only been paying attention to the price differences, without comprehending what the effects of these seemingly small decisions can have on the environment. Visitors should then be made more aware of the effect of choosing an option that is not green.

Therefore, a different communicative device could potentially be more convincing in letting festival visitors understand what the consequences are of acting unsustainably. Nudging might not be the way to encourage people towards pro-environmental behavior. Communication that emphasizes the urgency of making greener choices does not have to include nudging, so research into other forms is also recommended. A possible research

question could be *to what extent do different communication methods convey the consequences of making unsustainable choices at festivals*. Using findings from that research, future festival organizers could benefit from helping their visitors understand the consequences and potentially inspire more pro-environmental behavior among the visitors. Further research is in any case necessary to determine how festivals can become more sustainable.

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Appendix A

Survey list 3 English

Page 1: Language choice

Do you want to proceed in English or Dutch?

- a) English
- b) Dutch

Page 2: Consent form

Welcome

This study is for an MSc Communication and Information Sciences thesis at Tilburg University

Thank you for participating in study! In this experiment you will follow a story tour of a festival and make choices along the way. The aim of the study is to learn about choices made by festival visitors. The experiment takes about five to ten minutes to finish.

Here you can read about your rights as a participant and the study subject. Please take your time and read the information carefully before giving consent and continuing with the study.

No risks have been associated with this study. Your answers will be recorded anonymously, and no personal information will be recorded. The data recorded in this study will be deleted within one-year completion of the study.

Participation in this study is completely voluntary therefore, you can withdraw from the study at any time. You will not get any penalty, and your answers will also not be recorded after your withdrawal. You are not required to answer any questions you find unpleasant.

If you have any questions regarding this study or procedure, please contact the researcher: s.h.lumer@tilburguniversity.edu.

Before participating in this study, you confirm that:

- You are 18 years of age or older I understand my rights as a participant;
- You agree that my data is anonymously stored for one year;
- You agree that my anonymous data and my answers will be used for research;
- You can understand the English language;
- You participate voluntarily in this survey and are aware that you can stop this participation at any time.

Do you want to participate in this experiment?

- a) Yes, I wish to participate and consent to sharing my data.
- b) No, I do not wish to participate and do not consent to sharing my data.

Page 3: Demographic questions

How old are you?

- a) [Short answer]

Which gender do you identify with?

- a) Male
- b) Female
- c) Non-binary/third gender
- d) Prefer not to say

What is your highest obtained level of education?

- a) University
- b) HBO
- c) MBO
- d) High school
- e) Prefer not to say

Page 4: Introduction (this page had a timer that delayed the appearance of the button to progress to the next question)

It's spring. You come across a new festival on social media and look up their website. On the website, you find a description of their identity and together with your friends you decide to purchase tickets.

We would like to welcome you all warmly to our new festival in Hilvarenbeek. Our aim is to become the first climate neutral festival in the world because of the decisions our visitors make to reduce their and our carbon footprint.

However we don't want to limit your freedom of choice. You will have complete freedom to

pick what you want, do what you want and most importantly: be who you want! For every standard option you could run into at a festival, we offer a sustainable alternative. From drinks to outerwear, and from storage to tickets - everything you might want can also be sustainable. Something that will be the same here as at other festivals, is payment by tokens. These are sold at the entrance, a sheet of 10 tokens costs €30,-.

Once you purchase the tickets online, you receive an email in which you are informed about the options.

Page 5: Information email (this page had a timer that delayed the appearance of the button to progress to the next question)

Here you can read the information email with the decision moments pictured alongside icons, as they also will be at the festival.

LAST INFORMATION ABOUT

FESTIVAL



TRANSPORT



TICKETS



LOCKERS



BEVERAGES



EAR BUDS



FOOD



FACILITIES



OUTERWEAR

THE CHOICE IS UP TO YOU

we look forward to welcoming you

Page 6: Transport info 3

It's finally time! The day of the festival is upon us. You know that the only way to get to the festival is by taking an Uber from Tilburg Centraal to the terrain in Hilvarenbeek. You discuss at home beforehand which one you're going to take with your friends.



Which will you choose?

- a) UberX¹
- b) Green Uber

Page 7: Ticket info 3

Before you leave the house, you remember the tickets! Not wanting to run into issues at the entrance, you look up the information about tickets. You and your friends consider your options.

¹ Answer order was randomized for each choice in the experiment to prevent answer order bias.

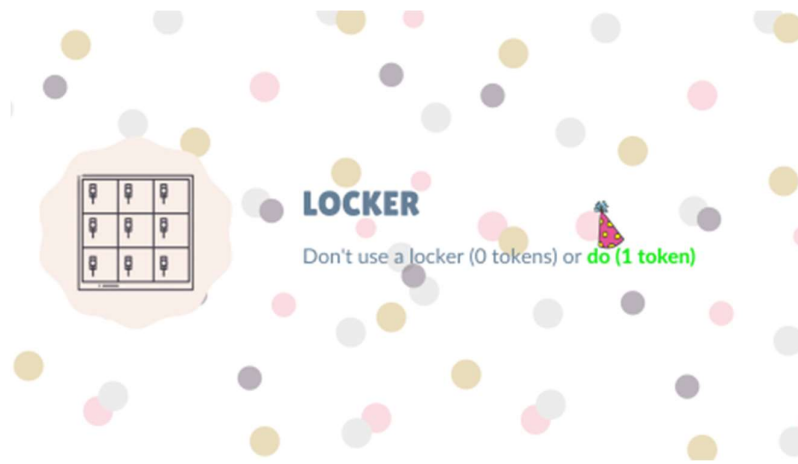


Where will you print your ticket on?

- a) Standard paper
- b) Bamboo paper

Page 8: Locker info 3

You traveled with your Uber of choice and have your tickets, made it through security and after the entrance you buy a sheet of tokens. You spot the lockers. Your group of friends all brought sweaters, jackets and bags, and you don't want to lose them or leave them behind on the terrain by accident. You consider whether it might be a good idea to put all the baggage in a safe place instead of carrying all the sweaters, jackets and bags around with you all the time. So you discuss whether you will get a locker or not.



Will you get a locker?

- a) Yes
- b) No

Page 9: Drink info 3

After deciding about the locker issue, you realize you're all parched from the whole journey. You're aching for a coke and go on a quest to find a bar. Once reaching one, you're greeted with hurrah! No lines. You peek over the edge of the bar and see the fridges with the options on display.



Which coke do you choose?

- a) Coca-Cola
- b) Fritz Kola

Page 10: Ear bud info 3

Once you all got your drinks, you head over to a stage for your first performance of the day. Their sound system is insane! You can even feel the bass drumming through your chest, which you find a bit worrying. Luckily you spot an ear buds vendor. You see the following options on their sign.



Which pair do you buy?

- a) Disposable
- b) Reusable

Page 11: Food info 3

After a while walking around enjoying the performances and dancing in crowds you've worked up quite an appetite which signals it's time for a snack. You see they have a burger stand, perfect!



Which burger do you pick?

- a) Beef burger
- b) Beet burger

Page 12: Toilet info 3

The burger was lovely! You go past another couple of stages and at some point you realize it's time for a bathroom break. Once you arrive at the toilets, you see there's a bathroom lady in front with a sign and a bowl for tokens. Behind her, two separate rows of different types of porta potties. Vacuum toilets use less water than regular Dixi's.



Which one do you choose?

- a) Dixi
- b) Vacuum toilet

Page 13: Rain info 3

You're almost getting ready to leave and even with the sweaters and jackets you're getting chilly. Especially when it suddenly starts to rain! There's a merchandise stand selling reusable raincoats and the bars start selling disposable ponchos as well.



Do you buy a reusable raincoat or do you grab a disposable poncho from the bar?

- a) Raincoat
- b) Poncho

Page 14: Attitude measurements

Please indicate to which extent you agree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am concerned about the environmental development	0	0	0	0	0	0	0

I am concerned about the long-term consequences of unsustainable behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to pay more for a product which helps protect the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often think about the negative development of environmental situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned that humanity will cause a lasting damage towards the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 15: Debriefing English

Thank you for your participation! This study meant to measure to what extent nudges can steer people towards green choices in a festival environment. If you have any questions, you can contact the researcher through email: s.h.lumer@tilburguniversity.edu. Please press this button to register your answers.

a) I'm done!

Appendix B

Survey list 3 Dutch

Pagina 1: Taalkeuze

Do you want to proceed in English or Dutch?

- a) English
- b) Nederlands

Pagina 2: Toestemmingsformulier

Welkom

*Dit onderzoek is voor een MSc Communicatie en Informatiewetenschappen scriptie aan de
Universiteit van Tilburg*

Bedankt alvast voor je deelname aan dit onderzoek! Zometeen zal je een verhalentour maken door een festival en daarbij ga je verschillende keuzes zelf maken. Het doel van dit onderzoek is om meer te weten te komen over de keuzes van festivalbezoekers. Daarom is voor deze vorm van experiment gekozen, zodat de keuzes zelf door participanten gemaakt kunnen worden. Het duurt ongeveer vijf tot tien minuten om het experiment te voltooien.

Hieronder word je geïnformeerd over je rechten als participant en het onderwerp van het onderzoek. Neem de tijd om de informatie goed door te nemen voordat je toestemming geeft

en doorgaat met dit onderzoek.

Er zijn geen risico's bekend met dit onderzoek. De antwoorden zijn geanonimiseerd en er wordt geen persoonlijke informatie vastgelegd. De data van dit onderzoek wordt maximaal een jaar na het afronden van de scriptie bewaard.

Deelname aan dit onderzoek is volledig vrijwillig en daarom mag je ook op ieder moment terugtrekken uit het onderzoek. Je antwoorden worden dan niet opgeslagen. Je hoeft geen vragen te beantwoorden waar je onprettig bij voelt.

Als je vragen hebt over dit onderzoek of de procedure, kan je de onderzoeker een bericht sturen: s.h.lumer@tilburguniversity.edu.

Voor mijn deelname aan dit onderzoek bevestig ik dat:

- Ik 18 jaar of ouder ben
- Ik mijn rechten als participant begrijp
- Mijn data anoniem wordt opgeslagen voor maximaal één jaar
- Mijn anonieme data gebruikt wordt voor onderzoek
- Ik de Nederlandse taal begrijp
- Ik vrijwillig deelneem aan dit onderzoek en begrijp dat ik op ieder moment mezelf mag terugtrekken uit het onderzoek

Bevestiging deelname

a) Ik wil meedoen aan het onderzoek

b) Ik wil niet meedoen aan het onderzoek

Pagina 3: Demographische vragen

Hoe oud ben je?

a) [Kort antwoord invullen]

Met welk geslacht identificeer jij je?

a) Man

b) Vrouw

c) Non-binair

d) Zeg ik liever niet

Wat is je hoogst genoten opleiding?

a) WO

b) HBO

c) MBO

d) Middelbare school

e) Zeg ik liever niet

Pagina 4: Inleiding (this page had a timer that delayed the appearance of the button to progress to the next question)

Het is lente. Je komt een nieuw festival tegen op social media en zoekt de website ervan op. Daar vind je een omschrijving van hun identiteit en samen met vrienden besluit je kaartjes te kopen.

We heten je van harte welkom op ons nieuwe festival in Hilvarenbeek. Ons doel is om het eerste klimaatneutrale festival ter wereld te worden door de keuzes die onze bezoekers maken om hun en onze ecologische impact te verkleinen.

Echter willen we dit bereiken zonder opties te verwijderen. Voel je compleet vrij om te kiezen wat je wilt, doen waar je zin in hebt en bovenal; zijn wie je wilt zijn! Voor iedere standaard optie die je hebt op festivals bieden we ook een duurzaam en gelijkwaardig alternatief. Van drinken tot buitenkleding, en van opslag tot tickets - alles waar je aan zou kunnen denken is ook beschikbaar in een duurzame uitvoering. Wat wel hetzelfde zal zijn als op andere festivals, is dat betalen met muntjes zal gaan. Deze kun je bij de ingang kopen en een vel van 10 muntjes kost €30, -

Zodra de aankoop is voltooid, ontvang je een informatie mail waarin je de opties te zien krijgt.

Pagina 5: Infomail (this page had a timer that delayed the appearance of the button to progress to the next question)

Hieronder vind je de infomail met de keuzemomenten en bijbehorende iconen, hetzelfde als hoe ze tijdens het festival voorkomen.

LAATSTE INFORMATIE OVER

FESTIVAL



VERVOER



KAARTJES



KLUISJES



DRANKJES



OORDOPPEN



ETEN



TOILETTE



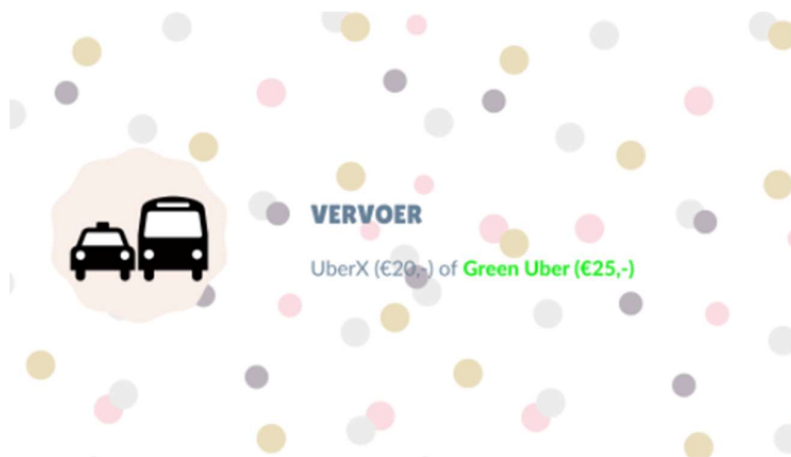
BUITENKLEDING

DE KEUZE IS AAN JOU

we kijken ernaar uit om je te verwelkomen

Pagina 6: Vervoer info 3

Het is eindelijk zover! Vandaag is het festival. Je weet dat het enige transport vanaf Tilburg Centraal naar het festivalterrein in Hilvarenbeek met de Uber is. Thuis bespreek je met je vrienden hoe je dus naar het festival zal gaan.



Welke Uber pak je?

- a) UberX
- b) Green Uber

Pagina 7: Kaartjes info 3

Voordat je thuis vertrekt, bedenk je dat er iets was met de kaartjes. Om ervoor te zorgen dat je geen problemen krijgt bij de ingang, zoek je de informatie erover op en bespreek je samen met je vrienden de opties.



Print je jouw ticket op papier van bomen of van bamboe?

- a) Papier van bomen
- b) Papier van bamboe

Pagina 8: Kluisjes info 3

Je hebt je kaartjes, je bent met de Uber naar keuze gekomen en je bent door de beveiliging heen. Na de ingang koop je een vel muntjes. Je ziet de kluisjes. Aangezien je hele vriendengroep allemaal truien, jassen en tassen mee hebben en jullie die niet willen kwijtraken of per ongeluk op het terrein achter willen laten, bespreken jullie of jullie een kluisje nemen.



Neem je een kluisje of niet?

- a) Wel kluisje
- b) Geen kluisje

Pagina 9: Drinken info 3

Nadat jullie eruit zijn over de kluisjes, beseffen jullie dat jullie vrij veel dorst hebben van de hele tocht tot nu toe. Het is tijd om een drankje te halen. Je snakt naar een cola en gaat op expeditie naar een bar. Eenmaal aangekomen, roepen jullie allemaal “hoera”! Er staat namelijk geen rij. Over de bar spiek je naar de koelingen en bekijk je de opties.



Welke cola bestel je?

- a) Fritz Kola
- b) Coca-Cola

Pagina 10: Oordoppen info 3

Nadat iedereen een drankje heeft gehaald, verplaatsen jullie naar een stage voor de eerste act van de dag. Ze hebben echt een ziek geluidssysteem staan. Je voelt zelfs de bas in je borstkas waar je een beetje bezorgd om raakt. Gelukkig spot je een stand waar ze oordoppen verkopen. Dit zijn de opties op hun bord.



Welke oordoppen koop je?

- a) Wegwerp
- b) Herbruikbaar

Pagina 11: Eten info 3

Nadat je van diverse optredens genoten hebt en het dansen in de menigte krijg je best een beetje trek, dus het is tijd voor een hapje. En je spot een burgertent, perfect!



Welke burger bestel je?

- a) Beef burger
- b) Bieten burger

Pagina 12: Toilet info 3

De burger was heerlijk! Je gaat langs een paar andere stages en op een gegeven moment is het tijd voor een toiletbezoek. Eenmaal bij de toiletten aangekomen, zit er een wc juffrouw met een bordje en een bakje voor munten ernaast. Achter haar zijn de twee soorten wc's afgescheiden van elkaar. Vacuum toiletten verbruiken minder water dan reguliere Dixi's.



Welke kies je?

- a) Dixi
- b) Vacuum toilet

Pagina 13: Regen info 3

Jij en je vrienden zijn klaar om te vertrekken, maar zelfs met de lagen truien en jassen is het vrij koud. Al helemaal als het opeens begint te regenen! Er staat een merchandise stand herbruikbare regenjassen te verkopen en aan de bar beginnen ze ook wegwerpponcho's te verkopen.



Koop je een herbruikbare regenjas of pak je een plastic poncho?

- a) Regenjas
- b) Poncho

Pagina 14: Attitudemeting

Geef aan in hoeverre je het eens bent met onderstaande stellingen.

	Sterk mee oneens	Mee oneens	Matig oneens	Neutraal	Matig eens	Mee eens	Sterk mee eens
De huidige ontwikkelingen m.b.t. klimaatveranderingen baren me zorgen	0	0	0	0	0	0	0

De huidige ontwikkelingen m.b.t. klimaatveranderingen baren me zorgen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben bereid om voor eenzelfde product meer te betalen als ik daarmee bijdraag aan de bescherming van het milieu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik denk vaak na over de negatieve ontwikkelingen in het milieu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik denk dat duurzame schade aan de omgeving veroorzaakt wordt door menselijk gedrag	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pagina 15: Debriefing NL

Bedankt voor je deelname! In dit onderzoek wordt er gemeten in hoeverre nudging mensen kan motiveren om groene keuzes te maken in een festival omgeving. Nogmaals, als je een vraag hebt kun je een mail sturen naar s.h.lumer@tilburguniversity.edu. Via onderstaande knop kan je definitief je antwoorden indienen.

a) Ik ben klaar!