# DIETARY CHANGE THROUGH UNIVERSITIES

## A STUDY ON UNIVERSITY'S FOOD POLICY AND ITS EFFECT ON STUDENTS' SUSTAINABLE FOOD PERSPECTIVES IN THE NETHERLANDS

Yi Fu Smits


Bachelor Thesis Geography, Planning & Environment

Nijmegen School of Management

Radboud University Nijmegen

# DIETARY CHANGE THROUGH UNIVERSITIES

## A STUDY ON UNIVERSITY'S FOOD POLICY AND ITS EFFECT ON STUDENTS' SUSTAINABLE FOOD PERSPECTIVES IN THE NETHERLANDS

Yi Fu Smits


Bachelor Thesis Geography, Planning & Environment

Nijmegen School of Management

Radboud University Nijmegen

s1045562
23-06-2023
Supervisor: dr. A.J. Calo
Second reader: dr. C.Y. Aoki Inoue
14,783 words

## Abstract

The current global food system needs to change in order to be sustainable in the long run. One way to strive for a sustainable system is through dietary change. People often intend to eat sustainable, yet factors such as price and taste are often more important, making it difficult to change diets. Institutions like a university may be essential in implementing this dietary change, as they have the tools to guide this transition.

In the Netherlands, universities are implementing more sustainable policies, and also try to incorporate this into their food offers. Nonetheless, it can be challenging for universities to match their sustainable food policy with students' (sustainable) food needs.

Based on two Nijmegen universities, the Radboud University (RU) and the Hogeschool Arnhem Nijmegen (HAN) and their different food policies, this thesis adds to knowledge about the effect of a university's (sustainable) food policy on the perspective of students regarding sustainable food consumption, using the *Reasoned Action Theory* (RAT). The following research question is formulated: How do RU and HAN students' perspectives on sustainable food consumption align with emerging university food policy initiatives?

To answer the research question, quantitative research is conducted through an online survey (n=94). In addition, the nature of RU and HAN's food policies were ascertained through observations on the RU and HAN, a brief interview with the HAN's community manager from "Eurest" (caterer of the HAN), and a short e-mail with RU's head of food & drinks. The results show that it is possible to use the RAT to explain sustainable student behaviour.

From the results, it appears that even though both the RU and HAN's food policy align with students' perspectives on sustainable food consumption, there is still a mismatch between students' perspectives and universities' food policies. On paper, students are willing to consume more sustainable food, but in reality students are held by back practicalities such as price, time, knowledge and the university's sustainable food offer. Possible follow-up research on other universities, in other countries or in another Dutch city that is less left-wing, would possibly also reveals such a mismatch, and can provide useful insights into the role of a university's food policy on students' perspectives on sustainable food in the future. Studies on several kinds of institutions other than universities can determine what measures to take in order to change to sustainable diets and therefore shape sustainable food behaviour.

## Content

## Abbreviations

| | |
|---|---|
| GHG | Greenhouse gas |
| HAN | Hogeschool Arnhem Nijmegen |
| LEI | Landbouw Economisch Instituut |
| RAT | Reasoned Action Theory |
| RU | Radboud University |
| TPB | Theory of Planned Behaviour |
| TRA | Theory of Reasoned Action |

# Chapter 1: Introduction

The production and consumption of food have an impact on the environment. The global food system is responsible for realising 30% of global total greenhouse gas (GHG) emissions (Crippa et al., 2021; United Nations Environment Programme, 2022). The GHG emissions from the global food system are released in several ways. One of the largest contributors is deforestation and land clearing for the production of dairy, meat and palm oil (Clark et al., 2020; Steinfeld et al., 2006). Meat in particular shows to have a significant impact on the environment and on current GHG emissions (Petrovic et al., 2015). A meat-based diet emits on average 7.19kg CO2 per 2000kcal whereas a plant-based diet emits 2.89kg CO2 (Scarborough et al., 2014). Additionally, the transportation of food from one region to another also contributes to carbon emissions (Tassou et al., 2009). The distribution of bananas and avocados from South-America to all over the world, for example, contributes not only to carbon emissions but also to the deforestation of the natural vegetation, replacing it with a homogenous landscape resulting in habitat loss (Denvir et al., 2022). Moreover, our crops also affect the quality of water and soil through the use of synthetic pesticides or fertilisers (Gerritsen, 2012). Furthermore, the working conditions in the food industry are often subpar, with hazardous working conditions, long hours and relatively low wages (Goff, 2018; Scott, 2017). In addition, there are also adverse effects on a fair distribution of food. In 2021, 702 to 828 million people in the world faced hunger (FAO et al., 2022). At the same time, people are getting more overweight; 2,2 billion people are overweight and face therefore health risks. This is twice as much as in 1980 (Afshin et al., 2017).

Researchers argue that one key leverage point for addressing these problems is through dietary change (Hallström et al., 2015; Jarmul et al., 2019; Springmann et al., 2016; Stehfest et al., 2009). Adapting a healthy diet with minimal environmental impact has even been touted as a climate change mitigation strategy as it may be more effective than technological mitigation options (Jarmul et al., 2019; Popp et al., 2010). Dietary change in regions with affluent diets contributes to fulfilling environmental goals as it eases pressure on land use and reduces GHG emissions by up to 50% (Stehfest et al., 2009). Especially the amount and type of meat consumed have a substantial effect on the reduction potential (Hallström et al., 2015). Also, in contrast to a reference scenario in 2025, a shift towards a more plant-based diet might reduce global mortality by 6%-10% and will at the same time secure access to healthy and affordable food for a globally growing population (Ray et al., 2013; Springmann et al., 2016).

It is thus of great importance to understand the wide-ranging effects of our eating habits. It not only impacts our health but also the issue of global hunger, the environment and the climate (Alsaffar, 2016). Therefore a transition towards consuming (more) sustainable food is needed. This implies food that is produced locally, organic, fair trade and eating vegetarian or vegan, which ensures the least impact on the planet and people and is a way to establish a sustainable future.

## 1.1 Research problem & goal

Sustainability competes with a variety of power individual and personal factors as consumers' food choices are influenced by several factors such as taste, price, personal values, appearance and packaging for example (Backus, et al., 2011). There is also a gap between how consumers think about sustainable food and how they act, as illustrated by sustainable food sales numbers and the intentions of Dutch consumers. While 60% of Dutch

consumers state that they are willing to pay more for sustainable products and 60% say they find various sustainable product features, such as animal-friendly labels, recyclable packaging, or plant-based relevant when buying food, the total consumer spending on sustainable food accounted for only 19% of all food expenditures in 2021 (Logatcheva, 2022). These percentages indicate a mismatch between people's intentions and their ultimate behaviour (Onwezen et al., 2021). With some guidance in the right direction, sustainable food consumption may be enabled as a more natural behaviour.

Institutions have key positions in initiating and stimulating social transitions such as the change towards a (more) sustainable diet. A university is a good example of an institution that has the power, the knowledge and the vision to guide this transition (Ramísio et al., 2019). By switching to sustainable food alternatives, universities can express to students, staff and society that issues with animal-based food are pressing enough to call for change (Krattenmacher et al., 2023). Additionally, by adopting this change, a university indicates its support for sustainability, equity and environmental protection (Rust et al., 2020). By influencing how individuals view and consume food, universities have thus the ability to contribute to a wider transformative change in the food system. Activities that take place on university campuses have therefore both indirect and direct impacts on the environment (Velazquez et al., 2005).

University campuses are currently already responding to a discourse of sustainability (Adams et al., 2018). But even with a clear direction, universities still seem to struggle with the implementation of a working sustainable food policy as they encounter several challenges (Cleveland & Jay, 2021). One of these challenges may be not knowing enough about the sustainable preferences of students. A university wants to avoid a mismatch between the sustainable food that they offer and what students want because this is one of the major causes of waste (Buisman et al., 2019).Another hurdle is the complexity of food choice, which often puts sustainability as a potentially minor factor compared to others. Sustainable food consumption can create a conflict between the collective interest (eating sustainable food) versus the individual interest (eating food that is tasty or eating food that is relatively cheap for example) (Aguirre Sánchez et al., 2021). This conflict raises questions for universities about what foods to offer, whether to offer less sustainable but preferred foods or sustainable but less preferred foods. Universities most of the time prefers the latter, as it aligns with their desired sustainable food policy. In order to achieve this, a university may choose its external suppliers and their procurement, and therefore shape students' food consumption behaviour through its power (Dorothy et al., 2011).

In the Netherlands, universities are making an effort to make the food supplied on campus more sustainable. The universities in Nijmegen, RU and HAN, are also guiding towards a more sustainable vision. Different food policies and student population make it useful to compare and research the Nijmegen universities.

This research can actively play a role in developing universities' food policies as it focuses on dietary change and aims to examine whether RU and HAN students' perspectives on sustainable food consumption are compatible with the food policy of universities. This entails determining if the food preferences of students align with existing universities' food policies and assessing to which extent universities actually have the power to influence students' food consumption. To gain more knowledge about the effect of a university's (sustainable) food policy on students' perspective on sustainable food consumption, the behaviour predictors of the framework of the RAT are used (Fishbein & Ajzen, 2011). The framework serves as a guide for gathering data and providing context for

the research findings. To explain how universities shape students' behaviour predictors on sustainable food consumption the main question central in this thesis is:

**'How do RU and HAN students' perspectives on sustainable food consumption align with emerging university food policy initiatives?'**

An answer to the main research question will be formulated by using the answers to these sub-questions.

1. 'How do different behaviour predictors express themselves among students' sustainable food consumption?'
2. 'To what extent is there a link between University food policy and students' perspectives on sustainable food consumption?'
3. 'Can differences in student perspectives be explained by demographics?'

## 1.2 Research relevance

### Society & the food system

The way food is currently produced and consumed puts a massive burden on the global ecosystem, contributing to biodiversity loss, ecosystem destruction, water pollution and GHG emissions which in turn accelerate climate change (Allievi et al., 2019; Kevanty et al., 2018). Climate change will impact all aspects of food security, from changes in supply chain infrastructure, markets and food prices to direct effects on crop production (Gregory et al., 2005; IPCC, 2018). Furthermore, the world population is expected to continue to grow, causing an increase in food demand and resulting in additional GHG emissions, more water and land use, societal unrest, conflicts and migration unless the current food system will be fundamentally reformed (FAO, 2017).

So, the food system must become more sustainable in order to address all of these issues. Sustainable production and consumption of food consider environmental limits, animal welfare, healthy food, food waste and equity, and can therefore contribute to the accomplishment of several Sustainable Development Goals (Backus, et al., 2011; Gennari et al., 2019).

The university is an example of an institution that can contribute to a more sustainable food system through dietary change. With the implementation of a sustainable food policy universities are well on their way, yet universities are often unsure how to align students' food behaviour with the university's food policy. By focussing on Nijmegen universities, this thesis aims to put a finger on a possible mismatch between students' sustainable food perspectives and universities' food policy, and therefore actively contributes to improve universities' developing food policies.

### Dietary change through universities

The report of the Landbouw Economisch Instituut (LEI) defined six different groups of consumers by looking at their characteristics, attitudes and behaviour towards sustainable food (Onwezen et al., 2011). The Ministry of Economic Affairs, Agriculture and Innovation also conducted a research in 2011 which looked at consumer and producer behaviour, to help make sure that suppliers and consumers work together, to move towards sustainable behaviour (Backus et al., 2011). Both studies revealed that consumers are creatures of habit and purchasing factors such as health, taste and price are of greater importance than the social factors of environment, animal welfare and justice (Backus et al., 2011; Onwezen

et al., 2011). Besides, Onwezen et al. (2011) pointed out that consumers behave as they intended when it comes to convenience, fairness, animal welfare and environmental friendliness consumers while Backus et al. (2011) assessed that thinking sustainability is important does not always lead to sustainable intentions.

Ahmed et al. (2018) looked at food waste in higher education, and Broton and Goldrick-Rab (2016) looked at the (un)affordability of food in higher education. Both emphasize the opportunity for universities to develop students' capacity to lead transformational change in the food system by using an experiential learning model.

Dietary change can be crucial to transform the food system. The food environment establishes a connection between diet and food supply and is therefore a factor in determining consumer food preferences and food production. Moreover, food environments are significantly influenced by both consumers and food services (such as university canteens or restaurants) (European Commission, 2020).

These studies show that there is a need for dietary change, and universities could play an important role in the sustainable transformation of the food system. It is yet not clear to what extent a university's food policy may affect the sustainable food behaviour of students since behaviour is complicated and humans are creatures of habit (Aguirre Sánchez et al., 2021; Barlett, 2011; Kamenidou et al., 2019).

This research looks at the effect of universities' food policies on students' sustainable food behaviour and contributes to theories of behavioural change by applying the RAT to food consumption within university campuses (Fishbein & Ajzen, 2011). The theory has a long history of adaptation and application, and has been applied to food and sustainability before (Bagozzi et al., 2000; Paul et al., 2016). This research examines whether the theory is also applicable to student sustainable food consumption behaviour in the context of ongoing sustainable food policy development and dietary change at the campus level. During the research, the behaviour of a specific group is questioned, namely RU and HAN students. Hereby this research adds to existing theory and contributes to the understanding of students' behaviour regarding sustainable food consumption.

# Chapter 2: Literature review

## 2.1 Dietary change

To provide nutritious food for the entire world's population while preserving the health of our planet, humanity needs to alter the food system. Because diets are both a driver and a result of the food system, dietary change is one way to strive for sustainable food.

A diet can serve as an excellent starting point for determining what can be done collectively and individually to better the food system (Meybeck & Gitz, 2017). Besides, changing diets is becoming more widely recognized as a crucial step in reaching several of the Sustainable Development Goals, and has been shown to have positive effects on health, less impact on land use and reduce GHG emissions (Nelson et al., 2016; Parodi et al., 2018; Stehfest et al., 2009). Moreover, diets are flexible, so flexible that they can even change within a generation. For example, a global transitions towards more energy dense diets have been measured by several researchers (Caballero & Popkin, 2002; Monteiro et al., 2010; Popkin & Nielsen, 2003). On top of that, it is relatively easy to produce more sustainable food and to enable a more positive socio-cultural image of these products through policy (Hereforth & Ahmed, 2015). Lastly, more sustainable food can be made more attractive by levying a tax on non-sustainable products, for instance (Gneezy & Rustichini, 2000).

Theoretically, a (global) dietary change is reachable because people in high-income countries have few barriers to adopt a more sustainable diet, and it does not have significant technological obstacles. However, diets are commonly considered relatively harsh to alter due to habits (Vermeulen et al., 2020). Moreover, Holt-Giménez (2017) states that the food system is designed to structurally meet profit rather than demand and for extraction rather than resilience. Also, some scholars argue that transforming the food system is impossible without addressing systemic injustices (Holt-Giménez, 2017; McKeon, 2014).

Even though changing diet involves some obstacles, it is still the best way to switch to sustainable food. This may be due, among other things, to the possible drawbacks of technology that increases the automation of food production and processing. A change to automation may cause higher energy use and lead to fewer jobs in agricultural production, which may drive more migration to cities. This in turn can result in more unemployment and urban poverty, possibly ending in social conflict (Herrero et al., 2021). Thereby, due to the dependence on funding for fundamental research, many technological concepts frequently cannot be developed (Herrero et al., 2020).

## 2.1 Sustainable diet

At this point, it may be unclear what constitutes a sustainable diet or sustainable food. That is not odd, as the definition of sustainability is contested and definitions can sometimes even contradict each other, making sustainability a vague and complex container concept. Moreover, sustainability is a dynamic process. What is now considered sustainable may not be sustainable in a few years.

The definition of sustainable diets in the FAO rapport is: "Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and

human resources". (Burlingame & Dernini, 2012, p.7). This is a broadly interpretable definition which shows that it is almost impossible to give a straightforward definition of sustainable food. Numerous published types of research focus on sustainable food consumption, but there is no commonly accepted definition (Lorenz & Langen, 2018; Reisch et al., 2013; Thøgersen, 2017).

Studies often choose to ascribe only a few characteristics to the concept of sustainable food. Van Dam and Scholten (1997) for example state that sustainable food may be animal friendly and produced in an environmentally friendly way on an economically viable scale. Further research includes animal welfare, reducing meat consumption, the environmental impact of food consumption and production, fair trade, organic foods and consuming locally produced products (Clarke et al., 2007;De Bakker et al., 2008; Kamenidou et al., 2019; Lorenz & Langen, 2018; Miranda-de la Lama et al., 2019; Tanner & Kast, 2003).

Furthermore, in the Lancet, Will et al. (2019) do not discuss about a 'sustainable diet' but about a 'healthy diet', focused on the health of both humans and the environment. They provide a recommendation of daily amounts for different kinds of foods, allowing a daily intake of animal products. Although consuming small bits of animal products could fall within the line of sustainable consumption, there are plenty of other researchers who argue that a plant-based or diet with the fewest animal products is the best sustainable diet (Hallström et al., 2015; Ray et al., 2013; Springmann et al., 2016). Therefore, this thesis considers vegetarian, vegan, locally produced, organic and fair trade as characteristics of a sustainable food product.

# Chapter 3: Theoretical framework

This study applies theories of human behaviour to understand food choices. Human behaviour is a complex interaction between multiple factors, such as genetics, environmental, social and decision-making factors. For instance, personality characteristics, which are shaped by genetics, determine whether one is risk-taking or risk-adverse (Craig & Halton, 2009). Environmental factors such as up brining, education and the environment you live in also influence one's behaviour (Hungerford & Volk, 1990; Landesman et al., 1987; Richardson et al., 1985). Social factors like peer pressure, social expectations and cultural norms can even further impact one's behaviour (Carden Smith & Fowler, 1984; Froming et al., 1982; Gelfand & Jackson, 2016). In addition, human behaviour is also influenced by the decision-making processes, this process allows one to make conscious decisions that do not align with environmental or genetic tendency factors (Henderson & Nutt, 1980). All of these factors can affect the way one perceives and reacts to different situations.

Behaviour is thus complex, to simplify it and make it more understandable, different behavioural theories have been invented. Theories are useful tools during research and help us to gain some clarity and understanding of how complex things work: how organisations operate, how societies work and how behaviour works for example. These complicated problems can be looked at through different 'lenses', which are provided by theories. These lenses offer a framework for conducting analyses and assist researchers in focusing on various parts of the data they have gathered (Reeves et al., 2008).

This research uses the *Theory of Reasoned Action* (TRA), *Theory of Planned Behaviour* (TPB) and the RAT, developed by psychologists Fishbein and Ajzen, to look at whether students' sustainable food behaviour can be changed by universities' food policy. Through these theories, it will become more evident which factors influence students' sustainable food behaviour and how universities can change this behaviour.

## 3.1 Explanation of behaviour and behavioural change

The TRA was introduced by Fishbein and Azjen in 1967 and is used to explain, predict and influence behaviour (Fishbein, 1979; Yzer, 2012). It is one of the most widely used theories in consumer behaviour research and has gained popularity among academic circles (Zhou et al., 2013).

At the beginning of the 20th century, there was a general understanding that attitude could play a role in determining how people behave. By the 1960s, the body of scientific evidence supporting the idea that people behave on their attitudes was, at best, patchy. For example, an attitude may not match one's behaviour when this behaviour is impulsive or mindless. Besides, much research did not find a connection between attitude and behaviour at all and other researchers countered that the weak connections between attitude and behavioural data were partly caused by measuring difficulties (Yzer, 2012).

That is where the TRA steps in, making measurement of the relationship between *attitude* and *behaviour* easier. Hale et al. (2002, p. 259), describe that the TRA was "born largely out of frustration with traditional attitude-behaviour research, much of which found weak correlations between attitudes measures and performance of volitional behaviours.". In this theory, *attitude* and *subjective norm* lead via *intention* to *behaviour*. Over the years, the theory proved inadequate. Fishbein and Ajzen (1991) therefore added *perceived behavioural control* in the hope it would "explain behaviours that were not completely under

the volitional control of the actor. ” and called it the TPB (Figure 2) (Hale et al., 2002, p. 277). Behaviour that required unique resources or opportunities, cooperation of others or special skills could now also be explained (Hale et al., 2002). After that, doubts were raised in academia as to whether the *subjective norm* could capture all relevant social influence, Fishbein and Ajzen again added another variable, *descriptive norm,* to the model and called it the RAT (Figure 3) (Yzer, 2012).

## Theory of Reasoned Action

The first behavioural theory that was developed by Fishbein and Ajzen was the TRA (1980). This model is rather simple and only has six variables (Figure 1). That is also the reason why the model is widely criticised, as it was argued as incomplete. Nevertheless, a model with all the variables that influence behaviour would become too complex (Van den Putte, 1993). As the model is simple, it can be used for different subjects, think about coupon use or AIDS preventative behaviour (Fisher et al., 1995; Shimp & Kavas, 1984). The study of Fischer et al. (1995) explored whether AIDS-preventive behaviour can be predicted by behavioural intentions. The results illustrate that when one believes using condoms is good (*attitude)*, the *intention* and *behaviour* to use condoms becomes higher.

In the model (Figure 1), a*ttitude* and *subjective norm* lead to *intention* from which *behaviour* arises. *Attitude* or *attitude towards the act* reflects someone's consideration to do a certain behaviour (Ajzen, 1991; Yzer, 2012). It shows whether the person is willing to do the behaviour and if the behaviour is good or bad, favour or disfavour. Things that influence the *attitude* are consequences of the behaviour and beliefs, also called *behavioural beliefs.* A belief can be that eating organic food is good. The *attitude* is then ‘eating organic food is good for your health'. This thought can lead to eating more organic food. *Attitude* has therefore a positive relation with *intention.*

As stated before, the model is straightforward, but this makes it challenging to avoid asking too many generic questions. The principle of comity is important with the TRA (Yzer, 2012; Ajzen & Fishbein, 1977). This means that there must be asked specifically at someone's attitude about a specific behaviour, taking into consideration the time, context, action and purpose. A statement can be: ‘I find it important to eat at least once a week vegan’. In this way, both the action being discussed and its frequency are obvious.

*Subjective norm* (or injunctive) is the perception that one is under social pressure to behave or not to behave in a certain way (Ajzen, 1991; Yzer, 2012). People that stand close to you, like loved ones, play an important role. Not only close friends but also experts and role models determine the *subjective norm.* If one has several friends who consume organic food, the chances are high that this will positively influence one’s *intention* and one may be going to eat (more) organic. The *subjective norm* is drawn from *normative beliefs*, also known as the opinions of others (Ajzen, 2005). So *subjective norm* and *intention* have a positive relationship.

*Behavioural intention* is someone's *intention* (or intent) to do a certain action. Time plays a big factor in the difference between *intention* and *behaviour*. If the period assessed between *intention* and *behaviour* is extensive, there is a considerable chance that factors impacting *intention* have changed, affecting the initial *intention* (and *attitude* and *subjective norm*) (Kollmuss & Agyerman, 2010). For example, if one’s initial *intention* is to solely eat sustainable food, but it takes some time before one begins to purchase only sustainable food, there is a possibility that the *intention* will alter between the time of the *intention* and

*behaviour.* Instead of eating completely sustainable, one now decides to only eat sustainable vegetables for instance.

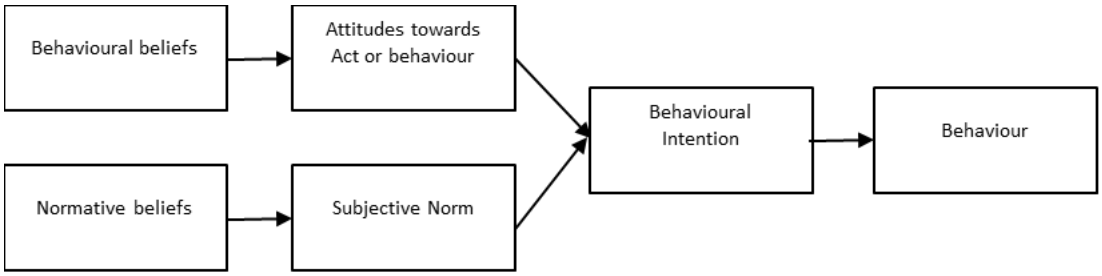



Figure 1: TRA (Fishbein & Ajzen, 1975)

## Theory of Planned Behaviour

Ajzen felt there was an important factor missing from the TPB, namely the *perceived behavioural control* (Ajzen, 1991; Ajzen, 2011). One can have good intentions, but there can be several things that can affect the control over one's behaviour. *Perceived behavioural control,* according to Ajzen (1991, p. 183) is: “people's perception of the ease or difficulty of performing the behaviour of interest". Examples of factors that can influence one's behaviour are time, skills, money, knowledge and cooperation with others (Ajzen, 1991). An example would be if one has the *intention* to buy more organic food, but does not have enough money for it. Additionally, students who believe they are able to prepare vegetarian food are more likely to have the intention to do so than students who think they cannot. Moreover, the students who believe that they can succeed will try harder than students who think they cannot. In this way, *perceived behavioural control* affects both *intention* and *behaviour* (Figure 2) (Van den Putte, 1993). *Perceived behavioural control* is measured directly by asking whether one thinks that the action in question is within one’s capabilities (Ajzen, 2005).

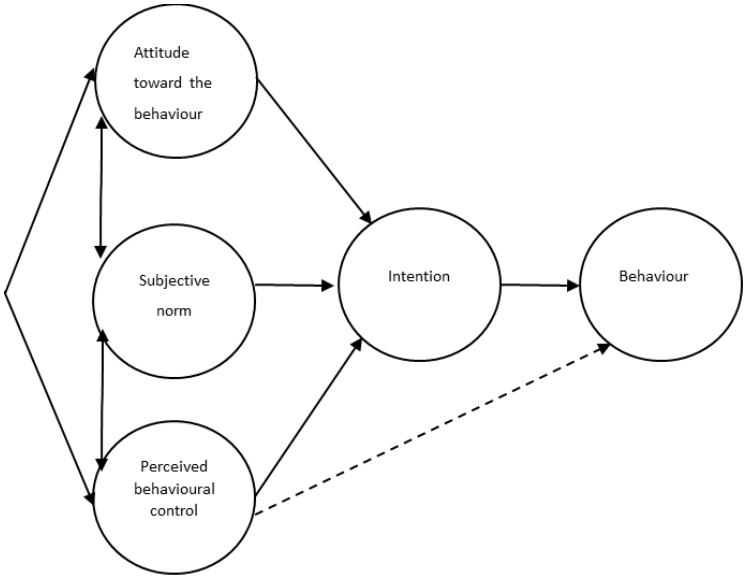



Figure 2: TPB (Ajzen, 1991)

## Rational Action Theory

The RAT, the most recent version of Fishbein & Ajzen's TRA, takes into account various criticisms (Figure 3) (Yzer, 2012). More variables have been added, giving the model a more complete picture of behaviour, without becoming hugely complex. The introduction of *perceived behavioural control*, the inclusion of external factors and the switch from *subjective norm* to *perceived norm* are the key changes (Fishbein & Ajzen, 2011; Yzer, 2012). The latter needs more explanation because it is not an obvious change.

The *perceived norm* can be split into two categories; *descriptive norms* and *subjective norms. Subjective (injunctive) norm* was already incorporated in the original TRA and focuses on the opinion of others (Yzer, 2012). The *descriptive norm* is added in the RAT. The *descriptive norm* not solely looks at the opinion of others, but it also looks at whether one is motivated to do a particular behaviour by oneself (*motivation to comply*) (Yzer, 2012). For instance, a student who is more intrinsically motivated to eat vegetarian is likely to eat more vegetarian than a student who is less intrinsically motivated.

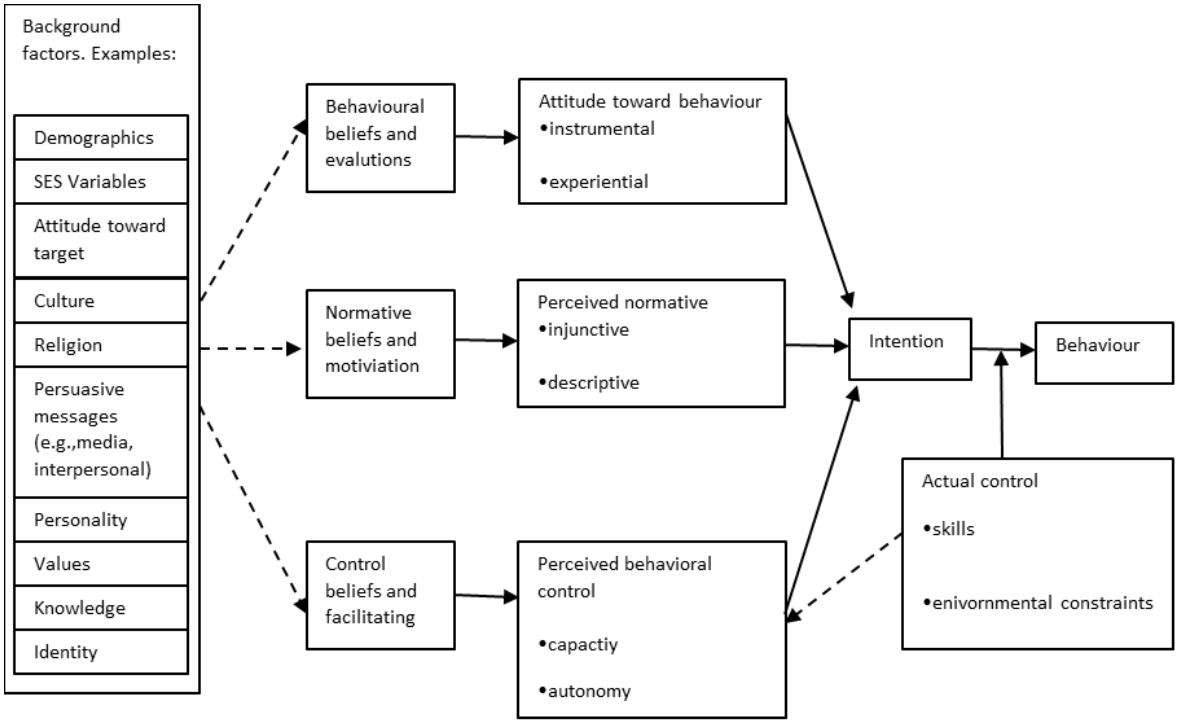



Figure 3: RAT (Fishbein & Ajzen, 2011)

## Behaviour and sustainability

To make the conceptual model (Figure 5) more specific on sustainability, some environmental factors that can explain sustainable behaviour will be added: *environmental knowledge*, *environmental risk perception* and *environmental concern.*

*Environmental knowledge* refers to the information that someone possesses on the environment and the impact that consumption and production have (Pagiaslis & Krontalis, 2014). Davidson & Frickel (2004) even distinguish three types of *environmental knowledge*:

1. *system knowledge* is knowing about the working of ecosystems, for example, the understanding of the relationship between carbon dioxide and climate change;
2. *action-related knowledge* is knowing what actions can be undertaken to encounter environmental problems;

3. *effectiveness knowledge* is knowing about the benefit when taking environmentally friendly actions.

Recent studies show that *environmental knowledge* has an indirect effect on individuals' *intention* to behave more sustainably (Gkargkavouzi et al., 2019; Paço & Lavrador, 2017). *Environmental knowledge* is thus important in changing one's unsustainable consumption behaviour (Pagislis & Krontalis, 2014; Zsóka et al., 2013). The more knowledge about environmental issues one possesses, the more positive the *attitude* towards the environment (Marquart-Pyatt, 2008). This more positive *attitude* can possibly lead towards a more (positive) sustainable behaviour. Hence that it is important what kind of knowledge is given and how the knowledge is delivered to someone (Zsóka et al., 2013).

*Environmental risk perception* is "an individual's understanding of the importance and urgency of environmental protection and the relationship between people and the environment." (Zeng et al., 2020, p.4). Franzen and Vogl (2013) distinguish three types of *Environmental risk perception*: emotionally affected by environmental degradation, willing to act and having rational insight into the problem. The propensity to protect the environment is thus dependent on the perceived environmental risk by someone, this can vary according to someone's external contexts (Franzen & Vogl, 2013; Saari et al., 2021). For instance, compare a daughter of a timber worker, whose life depends on cutting trees and doing it well, with a city dweller who is inhaling toxic fumes from the paper mill nearby. Because one's health is put at risk, the city dweller is more likely to become emotionally affected by the cutting of trees than the timber worker. Consequently, the city dweller has a greater *environmental risk perception* than the timber worker.

*Environmental concern* is the extent to which one is aware of environmental issues and whether they are willing to make efforts to solve them (Dunlap & Jones, 2002 in Paul et al., 2016). The *environmental concern* of one depends on one's spatial background, like weather, but it also depends on geographical vulnerability like heat waves or rising sea-level (Hamilton et al., 2010). For example, due to rising sea levels, one living below sea level may have a higher environmental concern than one living at the top of a mountain. It is thus important to keep the spatial component of *environmental concern* in mind (Schaffrin, 2015). Additionally, the dimension of time needs to be taken into consideration. Individuals differ in their levels of environmental concern regarding risks that jeopardise the lives of future generations because they have different perspectives on the future (Milfont & Gouveia, 2006; Schaffrin, 2015). One can think that it is most important to safeguard the lives of future generations while others think it is most important for today's generation to have a safe life. On top of that, each region will have different experiences with climate change, some will be more affected by climate change than others. All these factors shape the degree to which one is concerned about the environment.

A basic model can be used to describe *environmental knowledge, environmental risk perception* and *environmental concern*. The more one knows about environmental issues, the higher the environmental concern, the higher one's *attitude* towards sustainable consumption and the higher the *intention* (Marquart-Pyatt, 2008). The direction of the causality between *environmental concern* and the level of *risk perception* is not clear. It could be that a higher *environmental concern* leads to a higher *environmental risk perception*, but it can also be the other way around (Saari et al., 2021).

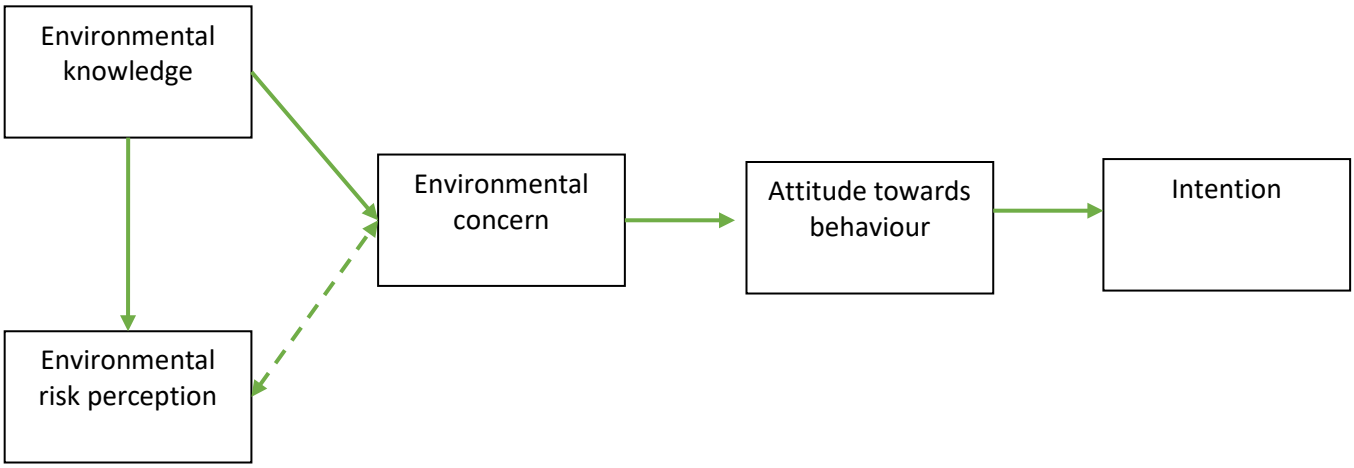



Figure 4: environmental knowledge, environmental risk perception and environmental concern

To understand sustainable food choice, one can combine these theories of behaviour (TRA, TPB, RAT) with environmental concepts. While theories of behaviour focus on variables that directly influence one's *intention* and indirectly influence one's *behaviour*, environmental concepts bring some further specificity to the model regarding sustainable behaviour. Together they construct a comprehensive model that could explain students' sustainable food consumption (Figure 5).

## 3.2 Conceptual model

The conceptual model is essentially the conceptual model of the RAT, but also incorporates the way a university's food policy may influence students' sustainable food behaviour (Figure 5). A university may increase the *environmental concern* of a student by providing knowledge about sustainable food or about negative effects of consuming unsustainable food. Additionally, the *perceived norm* may also be influenced by the university. The university can achieve this by responding to the *subjective norm*. If there is a general discourse of sustainable food at the university's campus, students will probably feel compelled to consume (more) sustainable food. Also, a university may influence the *descriptive norm* of one, by motivating to buy sustainable food. This can be accomplished by, for instance, attaching win contents to the purchase of sustainable food. Lastly, the university may directly influence *perceived behavioural control* by, for example, making sustainable food cheaper. And a university may even be able to change *attitude, intention* and eventually *behaviour* indirectly through *environmental concern, perceived norm* and *perceived behavioural control*.

*Environmental knowledge* is not measured because it has a direct effect on *environmental concern*, hence only *environmental concern* is measured. Because universities do not have a direct effect on *environmental risk perception*, this variable will not be mentioned much in the research. Also, the research may become too extensive if *environmental risk perception* is included. Furthermore, the strength of each relation between the variables will be tested through regression analyses and there will be looked what the explanatory factor of the independent variable is on the dependent variable.

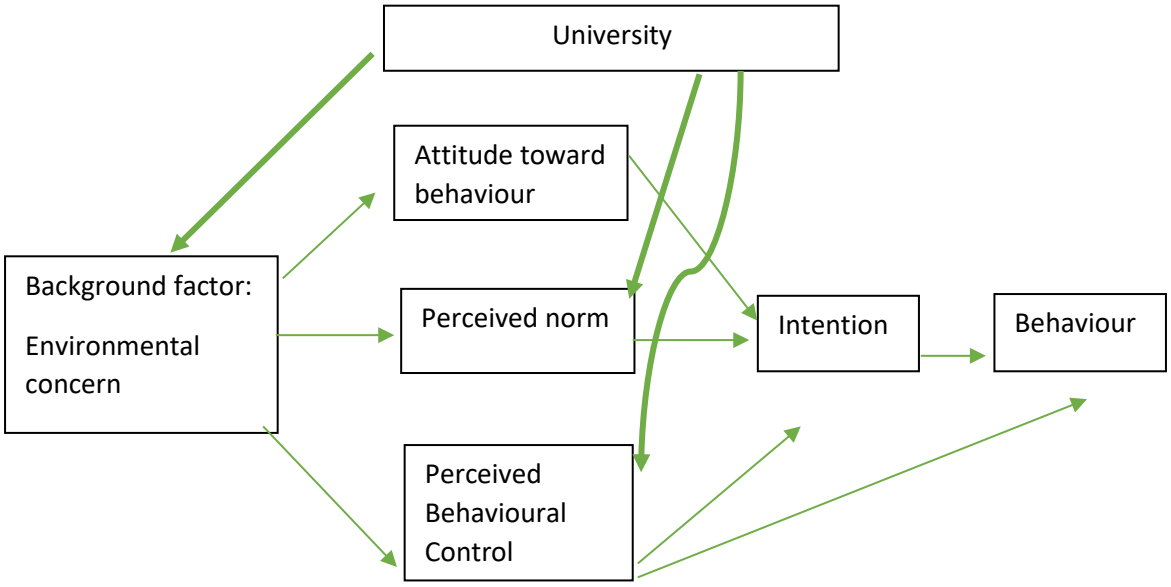



Figure 5: Conceptual model

## 3.3 Hypotheses

*Environmental concern, perceived norm* and *perceived behavioural control* could thus be influenced by a university (Fishbein & Ajzen, 2011; Yzer, 2012). There will be a brief explanation of every variable, followed by hypotheses. These hypotheses are derived from the sub-questions.

*Environmental concern* is an important factor, according to theory it (indirectly) influences every behaviour component in the model (Figure 5) (Dunlap & Jones, 2002 in Paul et al., 2016; Kollmuss & Agyemann, 2013). Confirming the theory, the students with the highest *environmental concern* could also be the students consuming the most sustainable food. Therefore the first hypothesis reads as follows:

Hypothesis 1: There is a difference in *environmental concern* among students.

*Perceived norm* consists of *subjective-* and *descriptive norm.* However, only the *descriptive norm* is taken into account in this study. *Descriptive norm* means whether one has an intrinsic motivation to do a particular behaviour, this motivation varies from person to person. Therefore the second hypothesis reads as follows:

Hypothesis 2: There is a difference in *perceived norm* among students.

*Perceived behavioural control* is also an important factor because according to the theory it influences *intention* and *behaviour* (Ajzen, 1991; Ajzen, 2011). It is expected that students differ in factors that affect the control over one's behaviour and students differ in how they perceive their own capability. Therefore the third hypothesis reads as follows:

Hypothesis 3: There is a difference in *perceived behavioural* among students.

De first three hypotheses were about the effect of the universities' food policy on students' behaviour. It is however also important to test whether the RAT is applicable for sustainable food consumption in general. Therefore the fourth and fifth hypotheses are about the RAT. According to the theory *attitude, perceived norm* and *perceived behavioural*

*control* have a positive relation with *intention* (Fishbein & Ajzen, 2011; Yzer, 2012). Therefore the fourth hypothesis reads as follows:

Hypothesis 4: *Attitude, perceived norm* and *perceived behavioural control* have a positive effect on *intention.*

*Intention* and *perceived behavioural control* have a positive effect on *behaviour* (Fishbein & Ajzen, 2011; Yzer, 2012). There will be looked at the effect of a direct relation between *perceived behavioural control* and *behaviour.* Therefore the last hypothesis reads as follows:

Hypothesis 5: *Intention* and *perceived behavioural control* have a positive effect on *behaviour.*

# Chapter 4: Methods

## 4.1 Research strategy

Based on the observed food at campuses, an interview with the community manager from HAN's caterer, and a short e-mail from the head of Food & Beverage, a picture of the universities' food policies could be constructed without the need to have access to formal documentation of the policies. After the characteristics of the food policies were established, a wide online survey was used to explore how the universities in the study influence the sustainable food attitudes of students. RU and HAN both want to reach a large group of students with their food policy, by using an online survey a large group of students and their attitudes can be reached. This makes it easier to generalise findings to the full student body, and better address the main research question. Interviews with students are unable to accomplish this, despite the fact that qualitative research would provide greater detail and convey a more compelling story about students' sustainable eating habits than quantitative research.

## 4.2 Data collection

Prior to the fieldwork, the definition of sustainable food was constituted through literature, forming the basis of the study and being essential to the fieldwork since it established the structure for both the observations and the survey.

The data were thus collected in two parts, firstly observations on both universities were made to determine the character of each sustainable food policy. During the observations, it was considered whether the building had an independent coffee corner and what food it offered. The food options in the food corners and vending machines were also examined. By focusing primarily on the presence of vegetarian and vegan options, it assessed how much sustainable food was offered in the coffee corners and food corners. Due to their simplicity of identification, only these two sustainable food characteristics were chosen. For instance, it is more challenging to determine whether a product was made locally if it is not listed than to determine whether a product contains animal products. Additionally, research indicates that the optimal diet, for reducing harmful impacts on the environment and climate change as well as battling hunger and obesity, is plant-based or contains the fewest animal products feasible (see Appendix for the elaborated observation protocols) (Hallström et al., 2015; Jarmul et al., 2019; Ray et al., 2013; Springmann et al., 2016).

To ensure equal knowledge of the food policy of both the RU and the HAN, a brief interview was arranged with the community manager from HAN's caterer, "Eurest". The goal of this interview was to learn what tasks the HAN assigns to the caterer concerning the food they desire to offer (see Appendix for the interview summary).

For the RU, the observations and a short e-mail from the head of Food & Beverage outlining the sustainable food developments at the campus were sufficient as there was already sufficient knowledge of RU's food policy beforehand (see Appendix for the e-mail).

Subsequently, data on the attitudes of a large number of students towards sustainable food consumption was gathered via an online survey. This method of data collecting was chosen as it allowed to reach a large potential number of respondents and one can complete the survey in their own time. The survey had to be well thought-out to be valid and reliable. There may occur a bias when this is not the case. To avoid a bias, the

decision was made to distribute the survey through various social media channels, such as WhatsApp groups and Instagram. Additionally, flyers were distributed during the lunch break at the universities, specifically providing randomly selected respondents.

A few answer categories were added to the questions regarding variables in the conceptual model to guarantee validity. By doing this, an effort was made to avoid having students interpret responses differently. Although, it is unlikely that every respondent will comprehend every question clearly and it is also probable that some respondents may not have read the survey's introduction carefully, missing the definition of 'sustainable food'. For these reasons, it was sought to formulate sub-statements as simply as possible.

At request of "Eurest" some questions were added to the survey, these questions mainly focus on what influences students to buy food at university rather than bringing their own meal. These questions are thus not included in the results.

### Potential limitations

Every research process can come with risks and limitations that might compromise the validity and representativeness of the findings. This section will discuss potential limitations that appeared during the writing of this thesis.

Firstly, the observations did not take into consideration the Spar University at the RU, because it is an independent party. It is although important to mention that a lot of students buy food here. The Spar is located near four buildings of the RU, and also HAN students who have to go to the Sports Centre are customers. Also, the food courts for dental and medical students are not included in the observation because they are not part of the food policy of the RU. The Radboud UMC is responsible for these food courts. There are however more than 1000 bachelor students at these faculties. These students will be included in the survey as this is a significantly large group, allowing to generalise the outcomes.

Another possible limitation is that the observations only took place in Nijmegen, while HAN also has some locations in Arnhem. The research is however about Nijmegen universities, not Arnhem universities. To be able to make equal comparisons between the universities, HAN's locations in Arnhem are not taken into consideration.

The observations were conducted in one day, the food supply of RU was observed on March 16, 2023 (week 11), and the food supply of HAN on March 20, 2023 (week 12). This will not make a huge difference to the supply of the food. It can however affect the dinners offered in "The Craft" and in the "Kapittelweg", as the menu differs every week. Yet, "The Craft" does offer a vegetarian meal every day and both in week 11 and week 12 there were three evenings that they served a vegan option.

Soups offered by RU and HAN are often different daily. Also, the promotion of products at the HAN differs every month. Nonetheless, these products are assumed to be similar at the core, because they are a small part of the food supply and the products are comparable.

Lastly, although 139 respondents had started the survey, only 94 were usable for the analysis. The desired number was approximately 100 respondents, so it is sufficient to have only 94.

## 4.3 Data analysis

To answer the research question, the data had to be analysed strategically. *Environmental concern, perceived norm, perceived behavioural control, attitude, intention* and *behaviour*

are captured in one value and are the main variables in this thesis, in the survey they consist of sub-statements. *Environmental concern* is divided into eight sub-statements about working conditions, knowledge, veganism, dairy, animal suffering, climate change, consequences of climate change, and food and water scarcity. Each of these sub-statements determines the level of *environmental concern.* The more a student agrees with all these sub-statements, the greater one's concern about the environment.

*Perceived norm* consists of ten sub-statements about price, taste, healthy, cooking, CO2, water use, animal suffering, working conditions, local and organic. The more a student agrees with the statement, the more impact the factor mentioned in the statement has on the *perceived norm*. A high *perceived norm* therefore implies that one has low intrinsic motivation to consume sustainable food.

*Perceived behavioural control* has five sub-statements about money, time, university's food offer and knowledge. The more a student agrees with the statement, the more the student is constrained by the factor mentioned.

*Attitude* only has two sub-statements, one about veganism and one on the purchase of sustainable goods. The more a student agrees with the statement, the higher one believes that consume sustainable food is good.

*Intention* and *behaviour* both consist of five sub-statements about vegetarian, vegan, fair trade, organic and local. The more days a student intended to incorporate a sustainable food factor in one's dinner, the higher the *intention* to consume sustainable food. And the more days a student actually incorporated a sustainable food factor in one's diner, the higher the behaviour of consuming sustainable food. Because student responses may differ between sub-statements, some main variables were interesting to analyse per statement.

Subsequently, the hypotheses are tested through an 'independent t-test' and 'regression analyses', using a significance of 0.05. To use these two methods, the variables tested need to comply with the next assumptions;

Independent t-test sample

1. Random sampling;
2. Both variables are interval or ratio scale;
3. The variable is normally distributed in the population.

Regression analysis

1. Both variables are interval or ratio scale;
2. The relation between both variables is in theory causal;
3. The relation between both variables is linear;
4. The dependent variable is normally distributed in the population for any value of X, and all these normal distributions are homoscedastic (Field, 2017).

These criteria will ensure that the research is valid and reliable, all of the assumptions are met (see Appendix).

An 'independent t-test sample' was used to compare the universities for the first three hypotheses. It was examined whether there is a difference between RU and HAN students regarding *environmental concern, perceived norm* and *perceived behavioural control.* Afterwards, the strength of the correlations between each variable in the conceptual model was assessed through 'regression analyses'. The strength of the correlations between the variables will also be assessed, the closer the coefficient approaches ± 1, the stronger the correlation (Figure 6) (Taylor, 1990).

# Chapter 5: Results

This chapter will give meaning to the survey results. First, the nature of the two universities' food policies will be established. After that, the survey data will be analysed, answering the five hypotheses.

## 5.1 Food policies

### Similarities in food policy

First, the observed similarities of the food policies at the universities will be discussed. Both universities try to reduce waste, encourage plant-based food and involve local food suppliers. Both RU and HAN have implemented the "Billie Cup", this is a reusable thee or coffee cup that students can purchase for 1 euro. Students receive a discount when they bring their "Billie Cup" to be filled with a hot beverage. Like so, the universities try to encourage students in reducing waste. Another initiative aiming to reduce waste is "Too Good to Go", whereby stores and grocery stores offer their unsold food for a lower price. In this way, the food will not be wasted. Both universities offer their unsold food on this platform.

Furthermore, both universities also encourage "the week without meat and dairy", where vegetarian and vegan products are highlighted and special attention is given to why it is important to eat vegetarian or vegan. Based on the observations it became clear that the universities both try to offer more vegetarian options. Students have several options to choose from, including soup, different kinds of buns, sandwiches, wraps, salads, hot snacks and snacks (see Appendix for all of the vegetarian food offerings on both universities).

Next, the actual food supplies will be briefly outlined. Both universities try to engage with more local and sustainable suppliers. The RU collaborates with "Oregional", whic is a cooperative of local farmers that provide potatoes, vegetables and fruit. RU aquires bread from ''t Kraayennest', canned coffee from coffee producer "Santas", and "MAAS" offers certified coffee and plant-based milk. Biscuits come from "de Koekfabriek", chocolate from "Tony's Chocolonely", and the cakes at RU are produced by "Droom!", which is an organisation where people who are distanced from the labour market work. Soups are delivered from "de Verspillingsfabriek", who produce the soups by using vegetables that would otherwise have been thrown away (see Appendix).

The HAN collaborates with the "Voedselbank", "Trash'ure", "de Versfabriek"and 50% of the Groenewoudseweg is purchased locally (HAN, 2022). Food that is left over at HAN is donated to "Voedselbank", which is an organisation that offers food to families that do not have sufficient income to make ends meet. "Trash'ure" provides for vegan cake, and HAN obtains the mushroom croquettes and mushroom bitterballen from "de Versfabriek". The oyster mushrooms that are used to make the croquettes and bitterballen are grown out of coffee dregs supplied by HAN itself (see Appendix).

### Differences in food policy

A key difference between the universities is the level of promotional material. The HAN seems to promote the use of the "Billie Cup" more actively, with flyers in every restaurant, flyers on every table in the Brew (the coffee bar), a vending machine with solely "Billie Cups" and a QR-code that leads to a survey about the "Billie Cup". This difference in the promotion can be explained by the fact that the HAN introduced the "Billie Cup" later than the RU, starting its use in only some locations on September 5, 2022 (Velemans, n.d.). Wheras the RU implemented the "Billie Cup" already in May 2022 in every building on the campus (Radboud University, n.d.a.). Thus the HAN maybe ought to promote the "Billie Cup" more

because it may not be so well known among its students yet.

Another notable difference between the universities that stands out are the different food events and promotions. The HAN organises monthly taste testing and a food festival, highlighting products that are healthier or more sustainable than the regular product. In the week of March 20th 2023, the popped chips from “FOOD2SMILE” were highlighted as a healthier alternative to regular crisps. Students who purchased this product were given a chance to win tickets for the EK qualification football game between The Netherlands-France. By sampling and linking a giveaway these healthier or more sustainable products are introduced in a ‘fun way’.

Furthermore, every costumer, in one of the food courts at the HAN, gets a piece of free fruit on Mondays and Fridays. The HAN also promotes products ,such as the “BitesWeLove Flip-its” (organic lentil crisps) and “Products of Happiness”, by having a sign next to it. Although on the day of the observation, there was only one Product of Happiness highlighted. At “Kapittelweg 33”, there was a pick & mix action, where three different products could be purchased for 5,50 euro, consisting of six different products. Additionally, there was an action where a Chaudfontaine 500ml bottle could be purchased for 1 euro when a bun worth 3,50 euro or more was purchased. Lastly, the week’s diner menu was displayed on boards at every food court. On the RU campus, there were no specific products highlighted in any food court and there were also no discounts or deals.

In ‘similarities in food policy’, it was mentioned that both universities have a lot of vegetarian options. In contrast, the range of vegan options between the universities differs significantly. From the observations, it became clear that the RU has more vegan options than the HAN in every food court. In some food courts of the HAN, they do not have a proper vegan lunch option. The “Prof. Molkenboerstraat 3” food court only offered crisps, nuts and popcorn as vegan options and the “Laan van Scheut 2” food court only offered soup. In contrast, the smallest food court of the RU, “The Cultuurcafe”, offered soup and a couscous salad as vegan options.

During the observations it was also found that the vending machines at both universities mostly offered vegetarian products, with the exception of some wine gums. The only vegan products that were offered were “Katja biggetjes”, “Pop chips” and “Oreos”. The RU has “the Health Food Wall” in “Huygens”, “Maria Montessori” and in the “University Library”. This vending machine offers only vegetarian and vegan options, ranging from wraps to meals, from drinks to flatbread, making it possible to choose vegetarian or vegan food after the food courts and coffee corners are closed. The HAN however only had regular vending machines.

Then, both universities also offer dinner on campus. The menu of the HAN does not offer any vegetarian or vegan options, whereas the RU offers three out of five days a vegan meal (in week 11), and a vegetarian option every day.

The last difference between the universities is their vision. HAN’s vision in 2017, when “Eurest” was appointed as the caterer, was to become the healthiest University of Applied Science in the Netherlands. During the interview, the community manager of “Eurest” was also speaking more about healthy food rather than sustainable food. Six years later, the HAN has shifted its vision to make its offered food more affordable. This policy can be seen in the food offerings. HAN now has a breakfast deal, which consists of “Zuivelhoeve” yoghurt granola + coffee/thee and a lunch deal: creamy soup + raisin bun + fruit, both for 2 euro. All of items included in the deals are unhealthy and unsustainable, but they are cheap.

It remains however unclear whether this shift in vision from HAN is created by feedback from students, who found the food becoming more expensive or if other factors are at play. Moreover, given that this information came from a non-official HAN spokesman interview, it is not guaranteed that HAN's food policy has shifted towards more affordable food over healthy or sustainable food.

Yet, the RU does not aspire more affordable food but vegetarianism and veganism, with the standard catering being vegetarian and 60% of the food they offer being vegetarian. There is no indication that the RU is going to alter its vision any time soon.

### Conclusion about food policy

Both universities try to reduce waste, offer sufficient vegetarian options in every food court and have more local and sustainable suppliers. Although the RU does not actively promote its products, the HAN does and stands out for doing so via the weekly menu, the highlighted food, "Products of Happiness", free fruit on Mondays and Fridays, and pick & mix. Even though both universities offer similar vegetarian products, the RU has a greater selection of vegan products than the HAN. Lastly, the difference in universities' vision, while the RU envisions offering vegetarian and vegan options, the HAN aims to offer more affordable food. With all these points taken into account, it can be concluded that the food policy of the RU is more focused on sustainability than the food policy of the HAN.

## 5.2 Analysis of dataset

In total 94 students completed the survey, 46 students study at RU and 48 students study at HAN. More women than men filled in the survey, the average age of the respondents is 20.94 years, the majority of the respondents do their groceries most of the time, and on average students think they spend between 5%-25% of their money on food (Table 1 and 2, and Appendix for a more extensive analysis).

### Table 1: Frequency table per university

| | **Frequency** |
|---|---|
| **RU** | 46 |
| **HAN** | 48 |
| **Total** | 94 |

### Table 2: Averages in the dataset

| | |
|---|---|
| **Gender** | 26.6% Male, 71.3% Female, 1,1% Non-binary, 1.1% Prefer not to say |
| **Average age** | 20.94 years |
| **Groceries** | 67 students doing their own groceries most of the time – 71.28% |
| **Average monthly expenditure on food (as % of monthly income)** | 54,2% 5%-25% |

### No differences between universities

For the first three hypotheses, the students of RU are compared with HAN students, concerning *environmental concern, perceived norm* and *perceived behavioural control.* The respondents have filled in several sub-statements for every variable (Chapter 4.3). In Table 3, these sub-statements are merged into one variable (*environmental concern, perceived norm* and *perceived behavioural control*). For *environmental concern,* a 3-point Likert scale was used. The respondent was able to answer with 'disagree', 'neutral' or 'agree'. A score of three on *environmental concern* means that one is the most possible concerned regarding sustainability-related issues, and a score of zero means that one has no *environmental concern* at all. It is often not the case that one has the highest or lowest score since the eight different statements all cover a different aspect of *environmental concern*. For instance, one might 'agree' with 'My knowledge about sustainability is great', but disagree with 'I am worried about animal suffering' .

For *perceived norm*, a 4-point Likert scale was used. The respondent was able to answer with 'no influence', 'a little bit of influence' or 'all determining'. A score of four on *perceived norm* means that the aspects appointed in the ten sub-statements are all determining in deciding to buy a product, and a sore of zero means that no factor influences whether one wants to buy a product. For example, when one might find that the price and taste of a product are 'all determining', but find the rest of the statements to have 'no influence' on their food choices, their score on *perceived norm* is rather low.

For *perceived behavioural control*, also a 3-point Likert scale was used. The respondent was also able to answer with 'disagree', 'neutral' or 'agree'. A score of three on *perceived behavioural control* means that one is totally constrained by practicalities when it comes to sustainable food consumption, and a score of zero means that one is not at all constrained by practicalities. Again, answers may differ between statement, giving an overall score between zero and three (see Appendix for all of the statements).

The scores of both universities for each variable are relatively close to each other (Table 3). There is no significance for any of the variables. Both universities score relatively high on *environmental concern*, meaning that students on average are reasonably concerned about sustainability issues. For *perceived behavioural control*, the scores are slightly on the low side. Meaning that students are a little bit constrained by practicalities when it comes to sustainable food consumption. Lastly, *perceived norm*, the scores are relatively low, implying that students do not regard the variable as much of an influence on their food choices.

Table 3: Independent Samples t-tests per university

| Variable | University | Mean |
|---|---|---|
| **Environmental concern** | **RU** | 1.51 |
| | **HAN** | 1.34 |
| **Perceived norm** | **RU** | 0.98 |
| | **HAN** | 1.09 |
| **Perceived behavioural control** | **RU** | 1.33 |
| | **HAN** | 1.48 |

(*= significant with 0.05)

Since all the variables are not significant, it is interesting to investigate if the sub-statements per variable are significant.

For *perceived behavioural control*, again, the higher the scores the more one is constrained by practicalities when it comes to sustainable food consumption. Table 4 shows that there are some differences between the universities. RU students answered more with 'agree' on the statement 'If I had more money, I would consume more sustainable food' than HAN students. HAN students answered more with 'agree' on the sub-statements of 'Knowledge', 'Time' and 'University's sustainable food offer'. Remarkable is that the scores of 'Money' are relatively high for both universities, this can be justified by the fact that students often do not have much money and are therefore constrained to buy more sustainable food.

Table 4: Independent Samples t-tests per university, perceived behavioural control

| Sub-statement | University | Mean |
|---|---|---|
| **Money** | **RU** | 1.94 |
| | **HAN** | 1.88 |
| **Time** | **RU** | 1.22 |
| | **HAN** | 1.31 |
| **University's sustainable food offer** | **RU** | 1.02 |
| | **HAN** | 1.42 |
| **Knowledge** | **RU** | 1.17 |
| | **HAN** | 1.31 |

(*= significant with 0.05)

Some sub-statements of *environmental concern* and *perceived norm* do show some significant difference, therefore there will now be focussed on these sub-statements.

For all of the sub-statements of *environmental concern* also applies; the higher the scores the higher the concern. Table 5 shows that there are some differences between the universities. Only 'Knowledge' (Sig. = 0.038) , 'Dairy'(Sig. = <0.001) and 'climate change' (Sig. = 0.026) are significant. RU students are more concerned with climate change than HAN students, the score of RU students is 1.85 whereas the score of HAN students is 1.73. RU students also answered the statement 'My knowledge about sustainability is great' more with 'agree' than HAN students, the score of RU students is 1.41 whereas the score of HAN students is 1.10. So there is higher *environmental knowledge* and higher *environmental concern* among RU students. This is in line with the theory, because a higher *environmental knowledge* leads to a higher *environmental concern.*

RU students also answered the statement 'The meat, dairy, egg industry is bad for the environment' more with 'agree' than HAN students, the score of RU students is 1.78 whereas the score of HAN students is 1.40. This can be explained by the fact that RU students also more often filled in 'agreed' on the statement 'Veganism is the most sustainable diet'. When one finds veganism the most sustainable diet, one is highly likely to think that 'The meat, dairy and egg industry is bad for the environment'. So, the results

correspond.

From the sub-statements of *environmental concern* it can be said that HAN students score higher on the sub-statements about animal suffering and working conditions of the workers, whereas RU students are more concerned about the environment and the effects of climate change. This difference can perhaps be explained by the respondents studying GPE at RU. Through their studies they generally gain more knowledge about sustainability than their fellow students, leading to more concern about climate change and a higher *environmental concern.*

Table 5: Independent Samples t-tests per university, environmental concern

| Sub-statement | University | Mean |
|---|---|---|
| **Working conditions** | **RU** | 1.24 |
| | **HAN** | 1.32 |
| **Knowledge** | **RU** | 1.41* |
| | **HAN** | 1.10* |
| **Veganism is the most sustainable diet** | **RU** | 1.04 |
| | **HAN** | 0.73 |
| **Dairy** | **RU** | 1.78* |
| | **HAN** | 1.40* |
| **Animal suffering** | **RU** | 1.39 |
| | **HAN** | 1.46 |
| **Climate change** | **RU** | 1.85* |
| | **HAN** | 1.73* |
| **Consequences climate change** | **RU** | 1.80 |
| | **HAN** | 1.75 |
| **Food and water scarcity** | **RU** | 1.59 |
| | **HAN** | 1.25 |

(* = significant with 0.05)

Then *perceived norm,* for the sub-statements it also holds that a high score implies that a variable has a high influence in deciding whether to buy a product. Table 7 shows that there are some differences between the universities. Only 'Healthy' is significant (Sig. = <0.001). HAN students answered the statement 'Whether the product is Healthy' more with 'All determining' than RU students, the score of HAN students is 1.70 whereas the score of RU students is 1.59. This aligns with HAN's food policy, which is focused on healthy food rather than sustainable food. 'Taste' has, in general, the highest score, meaning that it has a relatively high influence when one decides to consume a product.

Noteworthy is that HAN students on average score higher than the RU on every

variable, except 'Local'. This means that all sub-statements of *perceived norm*, except whether a product is produced locally, influence HAN students more in the decision-making to buy a product or not than RU students. Moreover, it is somewhere contradictory that RU students have a higher *environmental concern* but a lower *perceived norm* than HAN students. If one is concerned about the climate, they would probably take into account, for example, how much CO2 their food emits or how much water was consumed for their food. However, one may reduce CO2 or water consumption in other ways and find it less important to do through their food consumption.

Table 6: Independent Samples t-tests per university, perceived norm

| Sub-statement | University | Mean |
|---|---|---|
| **Price** | **RU** | 0.94 |
| | **HAN** | 1.02 |
| **Taste** | **RU** | 1.96 |
| | **HAN** | 2.06 |
| **Healthy** | **RU** | 1.59* |
| | **HAN** | 1.70* |
| **Cooking** | **RU** | 1.41 |
| | **HAN** | 1.33 |
| **CO2** | **RU** | 0.52 |
| | **HAN** | 0.63 |
| **Water use** | **RU** | 0.41 |
| | **HAN** | 0.50 |
| **Animal suffering** | **RU** | 1 |
| | **HAN** | 1.27 |
| **Working conditions** | **RU** | 0.65 |
| | **HAN** | 0.93 |
| **Local** | **RU** | 0.65 |
| | **HAN** | 0.60 |
| **Organic** | **RU** | 0.69 |
| | **HAN** | 0.88 |

(*= significant with 0.05)

Besides the effect of the universities' food policy, it can also be interesting to look at other variables that may influence *environmental concern, perceived norm* and *perceived behavioural control.* Through several multiple regression analysis, it was examined whether

the variables ‘Age’, ‘Gender’, ‘Degree’, ‘Study’ and ‘Income’ can explain more of the variance than the universities’ food policy. Table 7 shows that for *environmental concern* none of the variables are significant. The kind of degree one is obtaining explains a little bit of the variance. The other variables do not explain much of the variance. For *perceived norm,* ‘Degree’ also explains a little bit but is also not significant. For *perceived behavioural control*, ‘Gender’ and ‘Degree’ also explains a little bit, but both are not significant.

It is important to mention that three out of the ten master students, who completed the survey, do a GPE master. Thus it could be that ‘Degree’ may play a smaller role than what is currently shown.

Table 7: Demographics multi regression analysis

| **Variable** | **Environmental concern** | **Perceived norm** | **Perceived behavioural control** |
|---|---|---|---|
| **Age** | 0.008 | 0.003 | 0.168 |
| **Gender** | 0.081 | 0.43 | 0.007 |
| **Degree** | -0.24 | 0.183 | 0.169 |
| **Study** | 0.005 | 0.003 | 0.210 |
| **Income** | 0.015 | 0.004 | -0.009 |

(* = significant with 0.05)

Based on the analyses done above, the first three hypotheses can be answered.
Hypothesis 1: There is a difference in environmental concern among students.

Generally, RU students have a higher *environmental concern*, but there are no significant differences between RU and HAN students. It is however noteworthy that three sub-statements are significant (‘Dairy’, ‘Knowledge’ and ‘Climate crisis’). This can perhaps be justified by the fact that the RU offers more vegetarian and vegan food, therefore RU students have also a higher *environmental concern* when it comes to ‘Dairy’ and ‘Climate crisis’ than HAN students. In addition, the RU has more climate- and environment-related courses and even has a study focussing on environment (GPE), resulting in a higher environmental knowledge among RU students. It is also worth mentioning that although HAN’s food policy is not specifically aimed at vegetarian and vegan products, HAN students do have a higher concern with respect to animal welfare than RU students.

Hypothesis 1 is rejected, and H0 is accepted: there is no difference in *environmental concern* among students.

Hypothesis 2: There is a difference in perceived norm among students.

Also with this variable, there is no significant difference between HAN and RU students. Only the sub-statement ‘Healthy’ was significant, HAN students find it more important whether a food is healthy than RU students. Due to different food policies, one might also expect two different discourses regarding sustainable food, at RU and HAN. This is however not the case. One potential reason for this can be that the groups measured are

too similar and that differences within the groups are not measured. For instance, the respondents are all highly educated young people. As a result, the differences between the universities' students are generally not very large, HAN students score just slightly higher than RU students.

*Perceived norm* consists of the *subjective norm* and *descriptive norm*. It was chosen to measure only *descriptive norm*. This arguably ensures that a significant difference between the universities may not have been measured, even though it is present. In addition, almost an entirely separate study would be required to establish how *perceived norm* works exactly since it is a complex variable.

Hypothesis 2 is rejected, and H0 is accepted: there is no difference in *perceived norm* among students.

Hypothesis 3: There is a difference in perceived behavioural control among students.

There is no significant difference between HAN and RU students for *perceived behavioural control.* There are also no significant differences for the sub-statements. What did stand out was that RU students more often agreed with the statement 'If I had more money, I would consume more sustainable food' and HAN students less often agreed with that statement. This does not mean that money does not play a role for HAN students, the scores of both universities were relatively high. By discounting sustainable food, universities can probably encourage students to consume more sustainable food.

HAN students score higher on *Perceived behavioural control*, especially 'Knowledge' and 'University's food offer' are relatively high in contrast with RU students. Meaning that if HAN puts more effort into providing knowledge about sustainable food and increases its supply of sustainable food, it can influence its students by consuming more sustainable food.

In the survey, students were also asked to what extent they were aware of sustainable options at the university. More than half of the students (52.1%) answered with 'No, I have no idea' and 42.6% replied with 'Yes, I am a little bit aware. Meaning that 90% of the students are not fully aware of the sustainable eating options offered at the university. When both RU and HAN make sure students know what food is sustainable, students may start to consuming more sustainable food.

Hypothesis 3 is rejected, and H0 is accepted: there is no difference in *perceived behavioural control* among students. Meaning that no impact of universities' food policy can be measured on *environmental concern, perceived norm* and *perceived behavioural control*.

### Strong effect *environmental concern* and *perceived norm*

The fourth and fifth hypotheses deal with determining whether using the RAT has been fitting to this thesis. A regression analysis was performed between every variable. Figure 6 shows the results of this.

All correlations are significant. The closer the coefficient approaches ± 1, the stronger the relationship between the two variables. Most correlations are between 0.3–0.5, which means they have a 'weak correlation'. *Environmental concern-attitude, perceived norm-intention* are 'moderate correlations' and *intention-behaviour* is a 'high correlation' (Taylor, 1990).

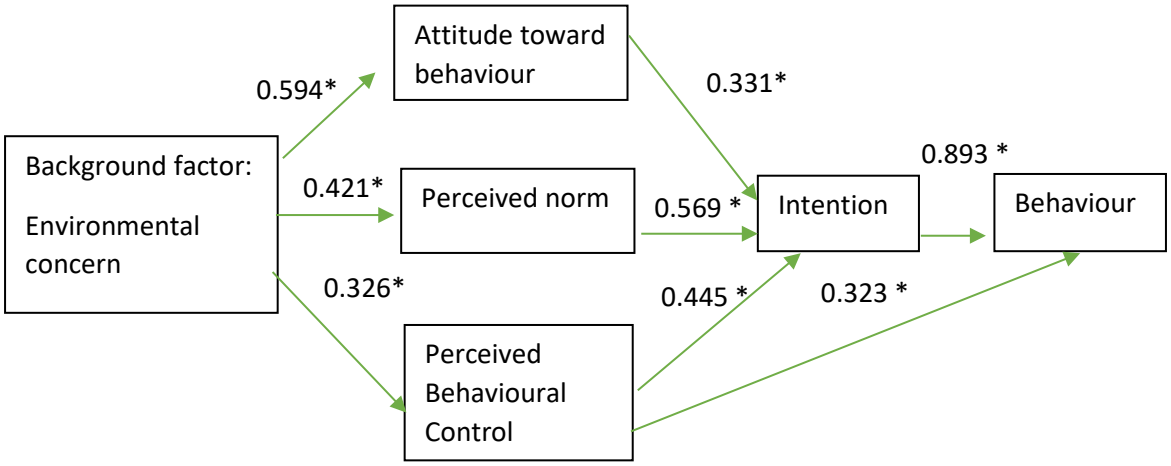



Figure 6: Results regression-analyses incorporated into RAT model (* significance of 0.05)

Table 8 shows the results of the regression analyses that are important for answering the last two hypotheses. The $R^2$ coefficient is added in the table, this shows what percentage of the model is explained by the correlation. What is striking is that the correlation between *perceived norm-intention* is greater than the correlation between *attitude-intention* and *perceived behavioural control-intention* (Figure 6). Suggesting that in general, one's intrinsic motivation is greater than one's beliefs and greater than variables that can cause one to be held back from consuming sustainable food. This is somewhere odd since one's beliefs (*attitude)* are often seen as the basis of one's actions. These differences in correlations may be because *attitude* is only covered by two sub-statements and *perceived norm* only consists of the *descriptive norm*.

Besides, *perceived behavioural control* has more influence on *intention* than *behaviour. Perceived behavioural control,* therefore, seems to have mainly an indirect relation with *behaviour* rather than a direct influence.

Table 8: Results of regression analyses

| **Dependent variable** | **Independent variable** | **R** | **$R^2$** |
|---|---|---|---|
| **Intention** | **Attitude** | 0.331* | 0.110* |
| | **Perceived norm** | 0.569* | 0.323* |
| | **Perceived behavioural control** | 0.445 * | 0.207* |
| **Behaviour** | **Intention** | 0.893* | 0.797* |
| | **Perceived behavioural control** | 0.323* | 0.104* |

(* = significant with 0.05)

Because *perceived behavioural control* also includes different variables, Table 9 shows the results of the regression analyses by sub-statements. 'Time', 'Knowledge' and the 'Universities' sustainable food offer' have a significant effect on *intention*. 'Time' and the 'Universities' sustainable food offer' also have a significant impact on *behaviour*. 'Knowledge' is thus significant for *intention* but not for *behaviour*. An explanation could be

that one might has a higher *intention* to buy sustainable food when one's sustainability knowledge increases, but does not convert this into *behaviour* because other factors play a (bigger) role. For instance, 'Money', 'Time' or the 'Universities' sustainable food offer'.

Table 9: Results of regression analyses perceived behavioural control

| **Dependent variable** | **Independent variable** | **R** | **$R^2$** |
|---|---|---|---|
| **Intention** | **Money** | 0.185 | 0.034 |
| | **Time** | 0.327* | 0.107* |
| | **Universities' food offer** | 0.388* | 0.151* |
| | **Knowledge** | 0.263* | 0.069* |
| **Behaviour** | **Money** | 0.116 | 0.014 |
| | **Time** | 0.220* | 0.49* |
| | **Universities' food sustainable offer** | 0.288* | 0.083* |
| | **Knowledge** | 0.195 | 0.038 |

(* = significant with 0.05)

Based on the analyses done above, the last two hypotheses can be answered. Hypothesis 4*: Attitude, perceived norm* and *perceived behavioural control* have a positive effect on *intention.*

All three variables have a positive effect on *intention*, nonetheless one variable is stronger than the other. *Perceived norm* has a greater effect on *intention* than the other two behavioural variables, for instance. This may be because only *descriptive norm* was used to measure *perceived norm.* Most of the sub-statements of *perceived norm* (organic, local, working conditions, animal suffering and CO2) are therefore very similar to the sub-statements of *intention* (vegan, vegetarian, local, organic and fair trade). This could have ensured a stronger correlation between the *perceived norm* and *intention*.

Moreover, three sub-statements ('Time', 'Universities' sustainable food offer' and 'Knowledge') of *perceived behavioural control* significantly affect *intention.* This is noteworthy, because this shows that students would intend to consume more sustainable food if they had more time and more sustainable knowledge, and if the university would offer more sustainable food.

Once again, the correlations between *perceived norm-intention* and *perceived behavioural control-intention* are moderate correlations and *attitude-intention* is a high correlation (Taylor, 1990). Meaning that in the case of *intention* and sustainable food consumption among students, RAT explains reasonably much. Therefore hypothesis 4 is accepted: *Attitude, perceived norm* and *perceived behavioural control* have a positive effect on *intention.*

Hypothesis 5*: Intention* and *perceived behavioural control* have a positive effect on *behaviour.*

Both *intention* and *perceived behavioural control* have a positive effect on *behaviour.* The effect of *intention* on *behaviour* is strong. This may be related to the phrasing of the questions in the survey; the questions of both variables were very similar, which probably caused the correlation to be so high.

Besides, a difference between the sub-statements of *perceived behavioural control*

can be observed. Only variables 'Time' and the 'Universities' sustainable food offer' have a significantly low effect on *behaviour.* The remaining sub-statements are not significant and do not have a strong effect on *behaviour.* Implying that students would consume more sustainable food if they would have more time and if the university would offer more sustainable food options. Meaning that in the case of *behaviour* and sustainable food consumption among students, RAT explains very little.

*Perceived behaviour control* is an added variable in the TPB and makes therefore the difference between the TRA and the TPB. However, the addition of the variable proves to be useful; *perceived behaviour control* explains 10.4% of *behaviour* in the case of sustainable food consumption of students. For that reason, hypothesis 5 is accepted: *Intention* and *perceived behavioural control* have a positive effect on *behaviour.*

### Differences in *intention* and *behaviour* between RU and HAN

It can be interesting to look at the sub-statements of *intention* and *behaviour*. Students indicated how many days of the following seven days they intended to eat vegan or vegetarian, and how many days they intended to eat a meal which contains at least one fair trade, organic and locally produced product. They did the same for *behaviour*, but this was about 7 days prior to completing the survey.

Table 10 shows that there is no significance for *intention.* RU students on average intend to eat more vegetarian and vegan than HAN students. It stands out that students on average intend to eat five days a week vegetarian. HAN students intend to incorporate fair trade and organic products in their meals more than RU students. In turn, RU students intend to eat more locally produced food. Furthermore, the scores between the two universities are practically the same.

Table 10: Independent Samples t-test Intention sub-statements

| Variable | University | Mean |
|---|---|---|
| **Vegetarian** | **RU** | 5.57 |
| | **HAN** | 4.98 |
| **Vegan** | **RU** | 2.09 |
| | **HAN** | 1.85 |
| **Fair trade** | **RU** | 3.87 |
| | **HAN** | 4.40 |
| **Organic** | **RU** | 3.93 |
| | **HAN** | 4.73 |
| **Locally** | **RU** | 4.04 |
| | **HAN** | 3.23 |

(* = significant with 0.05)

Table 11 shows that only 'Organic' is significant for *behaviour*. This difference can not necessarily be attributed to HAN's food policy, as it is not focused on organic food per se. Yet, HAN has a monthly food festival where organic products are promoted, which may explain the significance.

Just like *intention*, RU students have higher average scores for 'Vegetarian', 'Vegan' and 'Locally' than HAN students, and HAN students have higher average scores for 'Fair trade' and 'Organic' than RU students. Lastly, all scores of the sub-statements are higher for *behaviour* than *intention*. One explanation may be that when buying food, students are

more tempted to buy a more sustainable product than they intended to. Another explanation could be that students are unconsciously consuming more sustainable products than they initially think. As a result, their consumption of sustainable food (*behaviour*) exceeds their *intention*.

Table 11: Independent Samples t-test Behaviour sub-statements

| Variable | University | Mean |
|---|---|---|
| **Vegetarian** | **RU** | 6.67 |
| | **HAN** | 6.21 |
| **Vegan** | **RU** | 2.37 |
| | **HAN** | 2.27 |
| **Fair trade** | **RU** | 4.37 |
| | **HAN** | 4.83 |
| **Organic** | **RU** | 5.17* |
| | **HAN** | 5.54* |
| **Locally** | **RU** | 4.91 |
| | **HAN** | 3.79 |

(* = significant with 0.05)

Although the differences between students from both universities seem small at first, these small differences do explain differences in behaviour. This indicates that RAT helps explain behaviour and offers insight into how behaviour can be changed by focusing on the behavioural components.

## Chapter 6: Conclusions

The main research question 'How do RU and HAN students' perspectives on sustainable food consumption align with emerging university food policy initiatives?' can be answered via the sub - questions. This research shows that RAT can predict and explain sustainable food consumption and also demonstrates that RU and HAN students do not differ much from one another.

The first sub-question 'How do different behaviour predictors express themselves among students' sustainable food consumption?', refers to the RAT. In advance, it was difficult to predict how much the theory would explain the students' behaviour because the RAT is broadly applicable and can play out differently with each type of behaviour (Van den Putte, 1993). After conducting several regression analyses, it appears that behavioural components of the RAT correlate with each other. Some behavioural predictors are however more strongly correlated than others. In particular the sub-statements from *perceived behavioural control* seemed to play a serious part. Students would intend to consume more sustainable food if they would have more, money, time, knowledge about sustainable food, and if the university would offer more sustainable food.

In addition, the behaviour of students in this study is in line when it comes to *perceived behavioural control*. The component has both a direct effect on *behaviour* as well as an indirect effect, through *intention*. This research shows that the addition of *perceived behavioural control* to the theory has been of value.

The second sub-question 'To what extent is there a link between University food policy and students' perspectives towards sustainable food consumption?' was investigated by first conducting an observation at both RU and HAN to establish the food policies of both universities, then respondents were compared by institution on the various behavioural predictors. From the observations it became clear that RU's food policy is more focused on sustainable food (vegan/vegetarian) and HAN's food policy is more focused on healthy food.

The regression analyses initially showed that there are not many differences between the universities. The main variables do not differ significantly from each other. But once zooming in on different sub-statements of *environmental concern* and *perceived norm*, significant differences in the sub-statements emerge. RU students have a greater knowledge about sustainability, a higher concern regarding the meat, dairy and egg industry, and are more worried about climate change. HAN students find whether food is healthy a more important factor than RU students. In these differences it is possible to observe the difference in food policy between the universities; RU is more focused on sustainable food and HAN more focussed on healthy food. Besides, it appears that the *intention* and *behaviour* of eating vegetarian or vegan is a little bit greater among RU students than among HAN students. This could be an effect of the food policy of the RU, as more vegan and vegetarian products are offered at RU than at HAN. It may be stressed that the difference between the two universities is not significant and that the difference is small.

But the difference in *environmental knowledge* among RU and HAN students may also be explained by different studies and courses offered at the two universities. At RU, for instance, GPE is offered, where students obtain a lot of knowledge about sustainability. As a result, their knowledge and concern about environmental issues will be higher than students with non-sustainability-focused studies. HAN does not offer a similar type of study focusing on the environment.

The last sub-question ‘Can differences in student perspectives be explained by demographics?’ was examined by looking at whether ‘Age’, ‘Gender’, ‘Degree’, ‘Study’ and ‘Income’ might have more effect on *environmental concern, perceived norm* and *behavioural control* than the universities’ food policy. No significant scores emerge, only ‘Degree’ could explain a little bit of the variation for all three behavioural variables. However, the scores were thus not significant. In addition, the ratio of master-bachelor students was uneven resulting in one-third of the master’s students having an environmental study background. Because of this, it can be questioned whether ‘Degree’ has any impact at all on students’ perspectives.

It can be concluded that the RU and HAN’s food policies and students’ perspectives on food consumption reasonably coincide. The HAN strives for healthy food, also HAN students consider this an important factor in food decision-making. On the other hand, HAN students also indicate that they would consume more sustainable food if the university would offer more, if they had more money and if they had more knowledge about sustainable food. This arguably indicates a mismatch between what students want and what the university offers, because the HAN is offering more unhealthy cheap food lately.

The RU aims at sustainable food, focussed on vegan and vegetarian options. RU students find it important to eat most dinners of the week vegetarian and sometimes even vegan. Perhaps RU students consciously consume vegan and vegetarian food, yet the other factors of sustainability (organic, fair trade and locally produced) are overlooked. RU students, just like the HAN students, are willing to consume more sustainable food if they would have more knowledge about it, especially about organic, fair trade and locally produced food. The underlying factor of this mismatch between willingness to consume and actual behaviour is unawareness among students concerning sustainable food.

What becomes clear from this study is, that by increasing one’s awareness about sustainability and sustainable food, combined with making sustainable food consumption more accessible, it is possible to change students’ behaviour to consume (more) sustainable food.

## Discussion

This thesis tried to contribute knowledge about the effect of a university's (sustainable) food policy on the perspective of students regarding sustainable food consumption, focusing on RU and HAN students. However, the effect of universities' food policies on students' sustainable food consumption did not emerge completely clearly from this study. More time could ensure a better answer is provided. After all, four months is relatively little to conduct research, allowing it to be not comprehensive.

From the results, claims about student sustainable food behaviour are made. A small group of students did not complete all of the questions, rendering them unusable. By formulating the survey questions concretely and specifically or shortening the survey, the results would be more valid. Besides, behaviour is difficult to measure through a survey. Actual behaviour is not observed through this method. An individual can also have a particular view on their behaviour when this is in reality otherwise. Someone may provide socially desirable answers or intentionally avoid a question, making their answers less valid.

It was chosen to define sustainable food as food that is either vegetarian, vegan, fair trade, organic or local. The observations and sub-statements are based on this definition. Had a different definition of sustainable food been used, different sub-statements would have been chosen and the results of the study might also be different.

Also*, attitude* only had two questions, which makes the variable not very representative. It can be even questioned whether the variable adds value to the research at all. In addition, not every behavioural component was equally reflected in the survey. For instance, *perceived norm* does not consists solely of *descriptive norm,* but also the *subjective norm*. The latter was not included in the survey. As a result, information may have been missed. The *subjective norm* might explain that one eats vegetarian five days a week because a loved one does, not because one values vegetarian food or because one is influenced by the university's food policy for example.

The reader should bear in mind that RAT was originally meant as a theory for well-thought behaviour, not for routines, as consumption behaviour is a routine. Although RAT may not be the ideal theory, it is currently the most suitable for this research. Despite the mentioned limitations, this thesis provides useful insight about the effect of a university's food policy on students' perspectives on sustainable food.

## Recommendations

As discussed, a more extensive research using a baseline measurement will provide more insights about the effect of a universities' food policy on students' sustainable food perspectives. The behaviour of students would be measured before and after the universities changed their food policy, allowing for a better picture of the influence of a university's food policy on students' perspectives.

Nijmegen is generally very left-wing and focused on sustainability. Looking at another student city which is less 'green' and where eating vegetarian food is less common, would be interesting to investigate. Or perhaps to look even at universities in a different country, for example a country where there is less prosperity than the Netherlands.

Although there was no significant difference between RU and HAN students in terms of eating vegetarian and vegan, RU students eat more often vegan and vegetarian. This minor difference could be because RU offers more vegan and vegetarian food. This poses the question if students' food perspectives influence universities' food policies or if student food perspectives are influenced by universities' food policies. On the one hand, it may be that students consume more sustainable food because the university offers it. On the other hand, it may be that a university offers more sustainable food because it notices that, for example, more students take sustainable courses or more students participate in climate protests. More research on the role of universities' food policies has to be conducted to develop a better understanding of this process.

Determining the *perceived norm* could be a whole study itself. It is very complex and challenging to capture in a few questions. *Perceived norm* could however be key in clarifying which food policies are going to be effective and which are not. Despite this, *environmental concern* is the most effective variable to focus on, if one (a university) wants to change behaviour. Universities could implement more knowledge about food in their programme by adapting food-related course to what students want to see, as well as what universities want students to know. In this way, universities can provide food information to students in a low-key way.

Students indicated that they would consume more sustainable food if they had more money and additional information about it and if the university offered more sustainable food. If the universities take this into account and adjust their policies accordingly, perhaps students will consuming more sustainable food if their *perceived behavioural control* has increased.

Then zooming out to the wider problem of dietary change in the food system. Changing diet is the best option to change the food system, but can be difficult. Due to the fact that one may have the *intention* to consume sustainable food, factors such as price, time and taste are often more important, making it difficult to change diet. Institutions (supermarkets, government, food manufacturers and education, for example) have an essential role to support individuals with choosing sustainable food products. This can be accomplished by providing information, making prices of sustainable food products more attractive, coming up with more vegetarian and vegan recipes or simply offering more sustainable products and less unsustainable products.

## References


Adams, R., Martin, S., & Boom, K. (2018). University culture and sustainability: Designing and implementing an enabling framework. *Journal of Cleaner Production*, *171*. https://doi.org/10.1016/j.jclepro.2017.10.032

Afshin, A., Forouzanfar, M. H., Reitsma, M. B., Sur, P. J., Estep, K., Lee, A. P., Marczak, L. B., Mokdad, A. H., Moradi-Lakeh, M., Naghavi, M., Salama, J. K., Vos, T., Abate, K. H., Abbafati, C., Ahmed, M. B., Al-Aly, Z., Alkerwi, A., Al-Raddadi, R., Amare, A. T., . . . Murray, C. J. L. (2017). Health Effects of Overweight and Obesity in 195 Countries over 25 Years. *The New England Journal of Medicine,* *377*(1), 13–27. https://doi.org/10.1056/nejmoa1614362

Aguirre Sánchez, L., Roa-Díaz, Z. M., Gamba, M., Grisotto, G., Moreno Londoño, A. M., Mantilla-Uribe, B. P., Rincón Méndez, A. Y., Ballesteros, M., Kopp-Heim, D., Minder, B., Suggs, L. S., & Franco, O. H. (2021). What Influences the Sustainable Food Consumption Behaviours of University Students? A Systematic Review. In *International Journal of Public Health* (Vol. 66). https://doi.org/10.3389/ijph.2021.1604149

Ahmed, S., Shanks, C. B., Lewis, M. W., Leitch, A. R., Spencer, C. J., Smith, E., & Hess, D. (2018). Meeting the food waste challenge in higher education. *International Journal of Sustainability in Higher Education,* *19*(6), 1075–1094. https://doi.org/10.1108/ijshe-08-2017-0127

Ajzen, I. (2005). Ajzeni-2005-attitudes-personality-and-behaviour-2nd-ed-open-university-press.pdf. In *International Journal of Strategic Innovative Marketing* (Vol. 3).

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2). https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. In *Psychology and Health* (Vol. 26, Issue 9). https://doi.org/10.1080/08870446.2011.613995

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*(5). https://doi.org/10.1037/0033-2909.84.5.888

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. New Jersey: Prentice-Hall. In *Englewood Cliffs, NJ: Prentice Hall.*

Allievi, F., Antonelli, M., Dembska, K., & Principato, L. (2019). Understanding the global food system. In *Achieving the Sustainable Development Goals Through Sustainable Food Systems*. https://doi.org/10.1007/978-3-030-23969-5_1

Alsaffar, A. A. (2016). Sustainable diets: The interaction between food industry, nutrition, health and the environment. *Food Science and Technology International*, *22*(2). https://doi.org/10.1177/1082013215572029

Backus, G. B., Meeusen, M., Dagevos, H., Van 't Riet, J., Bartels, J., Onwezen, M. C., Reinders, M. J. T., De Winter, M., & Grievink, J. (2011). Voedselbalans 2011 : Dl. 1 Dynamiek in duurzaam. Voedselbalans. Retrieved on February 27, 2023, from https://edepot.wur.nl/168074

Bagozzi, R. P., Wong, N., Abe, S., & Bergami, M. (2000). Cultural and situational contingencies and the theory of reasoned action: Application to fast food restaurant consumption. *Journal of Consumer Psychology*, *9*(2). https://doi.org/10.1207/S15327663JCP0902_4

Barlett, P. F. (2011). Campus Sustainable Food Projects: Critique and Engagement. *American Anthropologist*, *113*(1). https://doi.org/10.1111/j.1548-1433.2010.01309.x

Broton, K. M., & Goldrick-Rab, S. (2016). The Dark Side of College (Un)Affordability: Food and Housing Insecurity in Higher Education. *Change: The Magazine of Higher Learning, 48*(1), 16–25. https://doi.org/10.1080/00091383.2016.1121081

Buisman, M. E., Haijema, R., & Bloemhof-Ruwaard, J. M. (2019). Discounting and dynamic shelf life to reduce fresh food waste at retailers. *International Journal of Production Economics*, *209*. https://doi.org/10.1016/j.ijpe.2017.07.016

Burlingame, B., & Dernini, S. (2012). Sustainable diets and biodiversity - Directions and solutions for policy research and action. Proceedings of the International Scientific Symposium Biodiversity and Sustainable Diets United Against Hunger. In *IOM Sustainable Diets*.

Caballero, B., & Popkin, B. M. (2002). Introduction. In *The Nutrition Transition*. https://doi.org/10.1016/b978-012153654-1/50003-9

Carden Smith, L. K., & Fowler, S. A. (1984). Positive peer pressure: the effects of peer monitoring on children's disruptive behavior. *Journal of Applied Behavior Analysis*, *17*(2). https://doi.org/10.1901/jaba.1984.17-213

Clark, M. R., Domingo, N. G. G., Colgan, K. K., Thakrar, S. K., Tilman, D., Lynch, J., Chelikowsky, J. R., & Hill, J. (2020). Global food system emissions could preclude achieving the 1.5° and 2°C climate change targets. *Science, 370*(6517), 705–708. https://doi.org/10.1126/science.aba7357

Clarke, N., Barnett, C., Cloke, P., & Malpass, A. (2007). The political rationalities of fair-trade consumption in the United Kingdom. *Politics and Society*, *35*(4). https://doi.org/10.1177/0032329207308178

Cleveland, D. A., & Jay, J. A. (2020). Integrating climate and food policies in higher education: a case study of the University of California. *Climate Policy*. https://doi.org/10.1080/14693062.2020.1787939

Craig, I. W., & Halton, K. E. (2009). Genetics of human aggressive behaviour. In *Human Genetics* (Vol. 126, Issue 1). https://doi.org/10.1007/s00439-009-0695-9

Crippa, M., Solazzo, E., Guizzardi, D., Monforti-Ferrario, F., Tubiello, F. N., & Leip, A. (2021). Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food*, *2*(3). https://doi.org/10.1038/s43016-021-00225-9

Davidson, D. J., & Frickel, S. (2004). Understanding environmental governance: A critical review. In *Organization and Environment* (Vol. 17, Issue 4). https://doi.org/10.1177/1086026603259086

De Bakker, H. C. M., Dagevos, J. C., & Spaargaren, G. (2008). Duurzaam consumeren : maatschappelijke context en mogelijkheden voor beleid. *Rapport / Wettelijke Onderzoekstaken Natuur & Milieu;71*.

Denvir, A., Arima, E. Y., González-Rodríguez, A., & Young, K. R. (2022). Ecological and human dimensions of avocado expansion in México: Towards supply-chain sustainability. In *Ambio* (Vol. 51, Issue 1). https://doi.org/10.1007/s13280-021-01538-6

Doherty, S., Cawood, J., & Dooris, M. (2011). Applying the whole-system settings approach to food within universities. *Perspectives in Public Health*, *131*(5). https://doi.org/10.1177/1757913911413344

European Commission. (2020). *Food 2030 pathways for action – Alternative proteins and dietary shift*, Publications Office. https://data.europa.eu/doi/10.2777/931427

FAO. (2017). The Future of Food and Agriculture: Trends and Challenges. Food and Agriculture Organization of the United Nations Rome, 2017. In *The future of food and agriculture: trends and challenges* (Vol. 4, Issue 4).

FAO, IFAD, UNICEF, WFP and WHO. (2022). The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome, FAO.
https://doi.org/10.4060/cc0639en

Field, A. (2017). Discovering Statistics Using IBM SPSS Statistics. SAGE.

Fishbein, M. (1980). A theory of reasoned action: some applications and implications. *Nebraska Symposium on Motivation. Nebraska Symposium on Motivation*, *27*.

Fishbein, M., & Ajzen, I. (2011). Predicting and changing behavior: The reasoned action approach. In *Predicting and Changing Behavior: The Reasoned Action Approach*. https://doi.org/10.4324/9780203838020

Fisher, W. A., Fisher, J. D., & Rye, B. J. (1995). Understanding and Promoting AIDS-Preventive Behavior: Insights From the Theory of Reasoned Action. *Health Psychology*, *14*(3). https://doi.org/10.1037/0278-6133.14.3.255

Franzen, A., & Vogl, D. (2013). Two decades of measuring environmental attitudes: A comparative analysis of 33 countries. *Global Environmental Change*, *23*(5). https://doi.org/10.1016/j.gloenvcha.2013.03.009

Froming, W. J., Walker, G. R., & Lopyan, K. J. (1982). Public and private self-awareness: When personal attitudes conflict with societal expectations. *Journal of Experimental Social Psychology*, *18*(5). https://doi.org/10.1016/0022-1031(82)90067-1

Gelfand, M. J., & Jackson, J. C. (2016). From one mind to many: The emerging science of cultural norms. In *Current Opinion in Psychology* (Vol. 8). https://doi.org/10.1016/j.copsyc.2015.11.002

Gennari, P., Rosero-Moncayo, J., & Tubiello, F. N. (2019). The FAO contribution to monitoring SDGs for food and agriculture. In *Nature Plants* (Vol. 5, Issue 12). https://doi.org/10.1038/s41477-019-0564-z

Gerritsen, P. (2012). Biologische voeding niet per se gezonder. *Tijdschrift Voor Praktijkondersteuning*, *7*(6). https://doi.org/10.1007/s12503-012-0090-1

Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). How do motives and knowledge relate to intention to perform environmental behavior? Assessing the mediating role of constraints. *Ecological Economics*, *165*. https://doi.org/10.1016/j.ecolecon.2019.106394

Gneezy, U., & Rustichini, A. (2000). A fine is a price. *Journal of Legal Studies*, *29*(1 PART I). https://doi.org/10.1086/468061

Goff, S. C. (2018). Fair trade: global problems and individual responsibilities. *Critical Review of International Social and Political Philosophy*, *21*(4). https://doi.org/10.1080/13698230.2016.1252993

Gregory, P. J., Ingram, J. S. I., & Brklacich, M. (2005). Climate change and food security. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *360*(1463). https://doi.org/10.1098/rstb.2005.1745

Hale, J. L., Householder, B.J., & Greene, K.L. (2002). The Theory of Reasoned Action. In J.P. Dillard & M. Pfau (Eds.), The persuasion handbook: Developments in theory and practice (pp. 259 – 286). Sage Publications, Inc.

Hallström, E., Carlsson-Kanyama, A., & Börjesson, P. (2015). Environmental impact of dietary change: A systematic review. In *Journal of Cleaner Production* (Vol. 91). https://doi.org/10.1016/j.jclepro.2014.12.008

Hamilton, L. C., Colocousis, C. R., & Duncan, C. M. (2010). Place effects on environmental views. *Rural Sociology*, *75*(2). https://doi.org/10.1111/j.1549-0831.2010.00013.x

HAN. (n.d.). Duurzame bedrijfsvoering. Retrieved on February 27, 2023, from https://www.han.nl/over-de-han/missie-en-strategie/duurzaamheid/bedrijfsvoering/

HAN. (2022, December 22). Op weg naar volwaardig duurzame catering. Retrieved March 21, 2023, from https://www.han.nl/nieuws/2022/12/han-op-weg-naar-volwaardige-duurzame-catering/

Henderson, J. C., & Nutt, P. C. (1980). INFLUENCE OF DECISION STYLE ON DECISION MAKING BEHAVIOR. *Management Science*, *26*(4). https://doi.org/10.1287/mnsc.26.4.371

Herforth, A., & Ahmed, S. (2015). The food environment, its effects on dietary consumption, and potential for measurement within agriculture-nutrition interventions. *Food Security*, *7*(3). https://doi.org/10.1007/s12571-015-0455-8

Herrero, M., Thornton, P. K., Mason-D'Croz, D., Palmer, J., Bodirsky, B. L., Pradhan, P., Barrett, C. B., Benton, T. G., Hall, A., Pikaar, I., Bogard, J. R., Bonnett, G. D., Bryan, B. A., Campbell, B. M., Christensen, S., Clark, M., Fanzo, J., Godde, C. M., Jarvis, A., … Rockström, J. (2021). Articulating the effect of food systems innovation on the Sustainable Development Goals. In *The Lancet Planetary Health* (Vol. 5, Issue 1). https://doi.org/10.1016/S2542-5196(20)30277-1

Herrero, M., Thornton, P. K., Mason-D'Croz, D., Palmer, J., Benton, T. G., Bodirsky, B. L., Bogard, J. R., Hall, A., Lee, B., Nyborg, K., Pradhan, P., Bonnett, G. D., Bryan, B. A., Campbell, B. M., Christensen, S., Clark, M., Cook, M. T., de Boer, I. J. M., Downs, C., … West, P. C. (2020). Innovation can accelerate the transition towards a sustainable food system. In *Nature Food* (Vol. 1, Issue 5). https://doi.org/10.1038/s43016-020-0074-1

Holt-Giménez, E. (2017). A foodie's guide to capitalism : understanding the political economy of what we eat. In *Revista de Occidente* (Issue 95).

Hungerford, H. R., & Volk, T. L. (1990). Changing learner behavior through environmental education. *Journal of Environmental Education*, *21*(3). https://doi.org/10.1080/00958964.1990.10753743

IPCC. (2018) Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3-24. https://doi.org/10.1017/9781009157940.001.

Jarmul, S., Dangour, A. D., Green, R., Liew, Z., Haines, A., & Scheelbeek, P. F. D. (2019). Climate change mitigation through dietary change: A systematic review of empirical and modelling studies on the environmental footprints and health effects of "sustainable diets." In *Environmental Research Letters* (Vol. 15, Issue 12). https://doi.org/10.1088/1748-9326/abc2f7

Kamenidou, I. C., Mamalis, S. A., Pavlidis, S., & Bara, E. Z. G. (2019). Segmenting the generation Z cohort university students based on sustainable food consumption behavior: A preliminary study. *Sustainability (Switzerland)*, *11*(3). https://doi.org/10.3390/su11030837

Kevany, K. M., Baur, G., & Wang, G. C. (2018). Transitioning to sustainable food choices: A course design. In *Sustainability and the Humanities*. https://doi.org/10.1007/978-3-319-95336-6_10

Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, *8*(3). https://doi.org/10.1080/13504620220145401

Krattenmacher, J., Casal, P., Dutkiewicz, J., Huchard, E., Sanders, E., Treich, N., Wadiwel, D., Williams, A., Bègue, L., Cardilini, A. P. A., Dhont, K., Dugnoille, J., Espinosa, R., Gagliano, M., Lairon, D., Maheta, M., Mendez, L., Nowicki, P., Quinn, T. P., . . . Twine, R. (2023). Universities should lead on the plant-based dietary transition. *HAL (Le Centre Pour La Communication Scientifique Directe)*, *7*(5), e354–e355. https://doi.org/10.1016/s2542-5196(23)00082-7

Landesman, S. [Ed], Vietze, P. M. [Ed], & Begab, M. J. [Ed]. (1987). Living environments and mental retardation. *Living Environments and Mental Retardation.*

Logatcheva, K. (2022). Monitor Duurzaam Voedsel 2021: Consumentenbestedingen. Wageningen University & Research. Retrieved on February 20, 2023, from https://edepot.wur.nl/575241

Lorenz, B. A., & Langen, N. (2018). Determinants of how individuals choose, eat and waste: Providing common ground to enhance sustainable food consumption out-of-home. *International Journal of Consumer Studies*, *42*(1). https://doi.org/10.1111/ijcs.12392
Marquart-Pyatt, S. T. (2008). Are there similar sources of environmental concern? Comparing industrialized countries. *Social Science Quarterly*, *89*(5). https://doi.org/10.1111/j.1540-6237.2008.00567.x

McKeon, N. (2014). Food security governance, empowering communities, regulating corporations. In *Food Security Governance: Empowering Communities, Regulating Corporations*. https://doi.org/10.4324/9781315882529

Meybeck, A., & Gitz, V. (2017). Sustainable diets within sustainable food systems. *Proceedings of the Nutrition Society*, *76*(1). https://doi.org/10.1017/s0029665116000653

Milfont, T. L., & Gouveia, V. v. (2006). Time perspective and values: An exploratory study of their relations to environmental attitudes. *Journal of Environmental Psychology*, *26*(1). https://doi.org/10.1016/j.jenvp.2006.03.001

Miranda-de la Lama, G. C., Estévez-Moreno, L. X., Villarroel, M., Rayas-Amor, A. A., María, G. A., & Sepúlveda, W. S. (2019). Consumer Attitudes Toward Animal Welfare-Friendly Products and Willingness to Pay: Exploration of Mexican Market Segments. *Journal of Applied Animal Welfare Science*, *22*(1). https://doi.org/10.1080/10888705.2018.1456925

Monteiro, C. A., Levy, R. B., Claro, R. M., De Castro, I. R. R., & Cannon, G. (2010). Increasing consumption of ultra-processed foods and likely impact on human health: evidence from Brazil. *Public Health Nutrition*, *14*(1), 5 13. https://doi.org/10.1017/s1368980010003241

Nelson, M. E., Hamm, M. W., Hu, F. B., Abrams, S. A., & Griffin, T. S. (2016). Alignment of healthy dietary patterns and environmental sustainability: A systematic review. *Advances in Nutrition*, *7*(6). https://doi.org/10.3945/an.116.012567

Onwezen, M.C., Taufik, D., Galama, J., Rood, R., van Wonderen, D., Bouwman, E. (2021) Agrifoodmonitor 2021 [PowerPoint]. Retrieved on February 18, 2023 from https://edepot.wur.nl/555097

Onwezen, M. C., Bartels, J., Meeusen, M.J.G., Fischer, A.R.H., & Ronteltap, A. (2011). Denken, doen en duurzame voeding: Verschillen tussen consumentengroepen. LEI. Retrieved on February 20, 2023, from https://library.wur.nl/WebQuery/wurpubs/fulltext/165400

Paço, A., & Lavrador, T. (2017). Environmental knowledge and attitudes and behaviours towards energy consumption. *Journal of Environmental Management*, *197*. https://doi.org/10.1016/j.jenvman.2017.03.100

Pagiaslis, A., & Krontalis, A. K. (2014). Green consumption behavior antecedents: Environmental concern, knowledge, and beliefs. *Psychology and Marketing*, *31*(5). https://doi.org/10.1002/mar.20698

Parodi, A., Leip, A., de Boer, I. J. M., Slegers, P. M., Ziegler, F., Temme, E. H. M., Herrero, M., Tuomisto, H., Valin, H., van Middelaar, C. E., van Loon, J. J. A., & van Zanten, H. H. E. (2018). The potential of future foods for sustainable and healthy diets. *Nature Sustainability*, *1*(12). https://doi.org/10.1038/s41893-018-0189-7

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, *29*. https://doi.org/10.1016/j.jretconser.2015.11.006

Petrovic, Z., Djordjevic, V., Milicevic, D., Nastasijevic, I., & Parunovic, N. (2015). Meat Production and Consumption: Environmental Consequences. *Procedia Food Science*, *5*. https://doi.org/10.1016/j.profoo.2015.09.041

Popkin, B. M., & Nielsen, S. J. (2003). The sweetening of the world's diet. *Obesity Research*, *11*(11). https://doi.org/10.1038/oby.2003.179

Popp, A., Lotze-Campen, H., & Bodirsky, B. (2010). Food consumption, diet shifts and associated non-CO2 greenhouse gases from agricultural production. *Global Environmental Change*, *20*(3). https://doi.org/10.1016/j.gloenvcha.2010.02.001

Radboud University. (n.d.a). “Billie Cup”: Weg met de wegwerpbeker. Retrieved March 21, 2023, from https://www.ru.nl/rechten/studenten/@1354374/billie-cup-weg-wegwerpbeker/

Radboud University. (n.d.b). Eten en drinken. Retrieved on February 27, 2023, from https://www.ru.nl/services/campusvoorzieningen/eten-en-drinken
Ramísio, P. J., Pinto, L. M. C., Gouveia, N., Costa, H., & Arezes, D. (2019). Sustainability Strategy in Higher Education Institutions: Lessons learned from a nine-year case study. *Journal of Cleaner Production*, *222*. https://doi.org/10.1016/j.jclepro.2019.02.257

Ray, D. K., Mueller, N. D., West, P. C., & Foley, J. A. (2013). Yield Trends Are Insufficient to Double Global Crop Production by 2050. *PLoS ONE*, *8*(6). https://doi.org/10.1371/journal.pone.0066428

Reeves, S., Albert, M., Kuper, A., & Hodges, B. D. (2008). Qualitative research: Why use theories in qualitative research? In *BMJ* (Vol. 337, Issue 7670). https://doi.org/10.1136/bmj.a949

Reisch, L., Eberle, U., & Lorek, S. (2013). Sustainable food consumption: An overview of contemporary issues and policies. *Sustainability: Science, Practice, and Policy*, *9*(2). https://doi.org/10.1080/15487733.2013.11908111

Richardson, S. A., Koller, H., & Katz, M. (1985). Relationship of upbringing to later behavior disturbance of mildly mentally retarded young people. *American Journal of Mental Deficiency*, *90*(1).

Rust, N. A., Ridding, L., Ward, C., Clark, B., Kehoe, L., Dora, M., Whittingham, M. J., McGowan, P., Chaudhary, A., Reynolds, C. J., Trivedy, C., & West, N. (2020). How to transition to reduced-meat diets that benefit people and the planet. In *Science of the Total Environment* (Vol. 718). https://doi.org/10.1016/j.scitotenv.2020.137208

Saari, U. A., Damberg, S., Frömbling, L., & Ringle, C. M. (2021). Sustainable consumption behavior of Europeans: The influence of environmental knowledge and risk perception on environmental concern and behavioral intention. *Ecological Economics*, *189*. https://doi.org/10.1016/j.ecolecon.2021.107155

Schaffrin, A. (2015). No Measure without Concept. A Critical Review on the Conceptualization and Measurement of Environmental Concern. *International Review of Social Research*, *1*(3). https://doi.org/10.1515/irsr-2011-0018

Scarborough, P., Appleby, P. N., Mizdrak, A., Briggs, A. D. M., Travis, R. C., Bradbury, K. E., & Key, T. J. (2014). Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. *Climatic Change*, *125*(2). https://doi.org/10.1007/s10584-014-1169-1

Scott, S. (2017). Informalisation in Low-wage Labour Markets: a Case Study of the UK Food Industry. *Population, Space and Place*, *23*(7). https://doi.org/10.1002/psp.2043

Shimp, T. A., & Kavas, A. (1984). The Theory of Reasoned Action Applied to Coupon Usage. *Journal of Consumer Research*, *11*(3). https://doi.org/10.1086/209015

Springmann, M., Godfray, H. C. J., Rayner, M., & Scarborough, P. (2016). Analysis and valuation of the health and climate change cobenefits of dietary change. *Proceedings of the National Academy of Sciences of the United States of America*, *113*(15). https://doi.org/10.1073/pnas.1523119113

Stehfest, E., Bouwman, L., van Vuuren, D. P., den Elzen, M. G. J., Eickhout, B., & Kabat, P. (2009). Climate benefits of changing diet. *Climatic Change*, *95*(1–2). https://doi.org/10.1007/s10584-008-9534-6

Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., & de Haan, C. (2006). Livestock's long shadow: Environmental issues and options. *Renewable Resources Journal*, *24*(4).

Tanner, C., & Kast, S. W. (2003). Promoting Sustainable Consumption: Determinants of Green Purchases by Swiss Consumers. *Psychology and Marketing*, *20*(10). https://doi.org/10.1002/mar.10101

Tassou, S. A., De-Lille, G., & Ge, Y. T. (2009). Food transport refrigeration - Approaches to reduce energy consumption and environmental impacts of road transport. *Applied Thermal Engineering*, *29*(8–9). https://doi.org/10.1016/j.applthermaleng.2008.06.027

Taylor, R. (1990). Interpretation of the Correlation Coefficient: A Basic Review. *Journal of Diagnostic Medical Sonography*, *6*(1). https://doi.org/10.1177/875647939000600106

Thøgersen, J. (2017). Sustainable food consumption in the nexus between national context and private lifestyle: A multi-level study. *Food Quality and Preference*, *55*. https://doi.org/10.1016/j.foodqual.2016.08.006

United Nations Environment Programme (2022). Emissions Gap Report 2022: The Closing Window — Climate crisis calls for rapid transformation of societies. Nairobi. Retrieved on February 24, 2023, from https://www.unep.org/emissions-gap-report-2022

Van Dam, Y. K., & Scholten, L. M. (1997). Consument en duurzaamheid: een literatuurstudie. In Y. K. van Dam, C. de Hoog, & J. A. C. van Ophem (Eds.), Voeding, consument en duurzaamheid (pp. 47-82). Garant. https://edepot.wur.nl/328768

Van den Putte, B. (1993). On the Theory of Reasoned Action. Unpublished doctoral dissertation. University of Amsterdam, The Netherlands.

Velazquez, L., Munguia, N., & Sanchez, M. (2005). Deterring sustainability in higher education institutions. *International Journal of Sustainability in Higher Education, 6*(4). https://doi.org/10.1108/14676370510623865

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman, D., DeClerck, F., Wood, A., Jonell, M., Clark, M., Gordon, L. J., Fanzo, J., Hawkes,

C., Zurayk, R., Rivera, J. A., de Vries, W., Majele Sibanda, L., … Murray, C. J. L. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. In *The Lancet* (Vol. 393, Issue 10170). https://doi.org/10.1016/S0140-6736(18)31788-4

Velemans, Y. (n.d.). “Billie Cup” vervangt wegwerpbekers. Retrieved March 21, 2023, from https://blog3.han.nl/paramedisch/billie-cup-vervangt-wegwerpbekers/
Vermeulen, S. J., Park, T., Khoury, C. K., & Béné, C. (2020). Changing diets and the transformation of the global food system. *Annals of the New York Academy of Sciences*, *1478*(1). https://doi.org/10.1111/nyas.14446

Yzer, M. (2012). Reasoned action theory: Persuasion as belief-based behavior change. In *The SAGE Handbook of Persuasion: Developments in Theory and Practice*. https://doi.org/10.4135/9781452218410.n8

Zeng, J., Jiang, M., & Yuan, M. (2020). Environmental risk perception, risk culture, and pro-environmental behavior. *International Journal of Environmental Research and Public Health*, *17*(5). https://doi.org/10.3390/ijerph17051750

Zhou, Y., Thøgersen, J., Ruan, Y., & Huang, G. (2013). The moderating role of human values in planned behavior: The case of Chinese consumers’ intention to buy organic food. *Journal of Consumer Marketing*, *30*(4). https://doi.org/10.1108/JCM-02-2013-0482

Zsóka, Á., Szerényi, Z. M., Széchy, A., & Kocsis, T. (2013). Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production, 48*. https://doi.org/10.1016/j.jclepro.2012.11.030

# Appendix

## Interview summary with the community manager from Eurest catering of the HAN

Eurest Catering is the catering for the HAN since 2017. Eurest is the biggest catering for Universities of applied science in the Netherlands. The interviewee is the community manager of three contracts within Eurest, one of them is the HAN. She is responsible for creating online and offline places where people come together. She 'manages' the community (students) of the HAN by initiating discussions about the food options at the HAN, responding to remarks of students, and creating content that will elicit positive reactions from the students. An example of the latter are the giveaways every week; when a student buys a certain product in that week one stands a chance of winning something. This can be tickets for a football game or a free lunch, depending on the brand deal. Although, every win is linked to a healthy or sustainable product. In this way, Eurest and HAN want to make students aware of a more healthy/sustainable option than the regular one. An example is an energy drink made out of natural sugars instead of "Red Bull". Besides that, the community manager tells that there are narrow-cast screens which project information about sustainable food/ sustainability.

Eurest Catering has a contract for two times 4 years (contract ending in 2025). In 2017 the HAN wanted to become the healthiest University of applied science in the Netherlands, before that it was not really concerned about sustainability. The Eurest catering had to go along with that, so they invested in becoming more healthy and sustainable. Every Monday and Friday students get a free piece of fruit when they buy food. Eurest also offers a free tasting every month, in this way students get in touch with different healthy/sustainable products. They also have a different cuisine that they highlight every week, this week it was Japan. In the past they had Indian and Indonesian for example. Eurest also organises a food festival with healthy suppliers or supplies that are corporate socially responsible, two times a year. There are also 5 products that are not rising in price, they call it the products of happiness. These are yoghurt, a vegan bun, a vegetarian salad, a smoothie and juice. All this free product and price fixing is paid from the budget given to the caterer, so they do not make a profit on this.

Every restaurant has a campus agenda. This is a monthly agenda highlighting the giveaway, the samples that will be given away that week, and the cuisine that is going to be discovered. From 6-10 March there was special attention given to the week without meat and dairy on the agenda.

All of the food courts on the HAN order their products from the supplier of Eurest, this is a fixed list of products. As a result, all food courts have roughly the same assortment. But Eurest also works with young small entrepreneurs, the food bank, Trash'ure (makes vegan cakes) and they get their oyster mushroom croquettes/ bitterballen from the Versfabriek. A fun fact is that these oyster mushrooms are grown out of coffee dregs supplied by the HAN.

The interviewee mentioned that since this week the direction of the HAN is changed. They want the food to become cheaper. She says that the food is too expensive according to students. But she is not sure why the HAN suddenly wants to change her direction, whether this is in response to the students' view or whether there is something else.

## E-mail head of Food & Beverage RU

24-02-2023

There are always developments in sustainability within the F&B department, which is actually embedded in our operations. Some examples are:

- Catering at meetings and events is vega(n) by default and meat or fish only available upon express request
- Stepwise increase in the supply and sales of vega(n) products in our departments by actively promoting and encouraging them
- Plant-based alternative to milk in all our staffed coffee corners
- Many local and/or sustainable suppliers, such as:
    - Oregional (cooperative of local farmers from whom we buy our potatoes, vegetables and fruit)
    - 't Kraayennest (local baker)
    - Santas (coffee, supplying e.g. canned coffee that is reused instead of disposable aluminium bags
    - MAAS (certified coffee and plant-based milk options)
    - Health Food Wall (offering sustainable options 24/7 from vending machines)
    - The Biscuit Factory
    - Tony's Chocolonely
    - Dream! (cakes, local and with people distanced from the labour market
    - De Verspillingsfabriek (e.g. soups made from vegetables that would otherwise have been thrown away
- Active participation in sustainability themed weeks, such as Dry January, National Week Without Meat and Dairy, Radboud Impact Festival and Vitality Week.
- Alcohol policy
- Introduction of Billiecup to reduce use of disposables
- Promote water taps and promote tap water at meetings instead of packaged water
- Offer more zero sugar soft drinks
- Too good to go (sell at reduced prices the last remaining products that are still good

In the coming period, the focus will be on further minimising food wastage and waste, making the chain transparent (CO2 emissions, local, seasonal, natural) and the protein transition (increasing the share of veg(n) and, for example, investigating steps towards the EAT-Lancet menu).

| Building | Grotius building (Het Gerecht) | Maria Montessori building (Grand café Iris) | University library (UB) |
|---|---|---|---|
| **Is there a separate coffeebar in the building?** | Yes | Yes, but it is together with the food court. | Yes |
| **What does the coffeebar offer in general?** | Hot drinks, cold drinks, pastry, snacks, yoghurt, fruit, noodle soup. | Hot drinks, cold drinks. | Hot drinks, cold drinks, pastry, snacks, yoghurt, fruit, noodles soup. |
| **Are there vegetarian/vegan options?** | All the food options are vegetarian. | Not relevant | Vegetarian<br>- Old cheese sandwich<br>- All the snacks are vegetarian<br>Vegan<br>- Alpro red fruit drink<br>- Alpro Greek yoghurt |
| **Remarks about coffee corner** | No vegan food options. No soy milk. | No | No |
| **What does the food court offer in general?** | Cold drinks, hot snacks, snacks, bars, different kind of sandwiches and buns, different bread toppings, fruits, salad bar, soup. | Warm snacks, different sandwiches, different wraps, snacks, salades, soup. | Not relevant |
| **Does the food court offer vegetarian options?** | - Vegetarian croquette bun<br>- Vegetarian crème American (spread)<br>- Panini caprese<br>- Pizza snack<br>- Brie rustica bun<br>- Cheese rustica bun<br>- Egg salad and vegetarian bacon rustica bun<br>- “Kaassouffle”<br>- Salad bar<br>- Veggie wrap<br>- Veggie sandwich<br>- All the snacks | - Vegetarian ‘saucijzenbroodje’<br>- Grilled cheese sandwich<br>- Panini caprese<br>- “Kaassouffle”<br>- Cheese sandwich<br>- Brie bun<br>- Veggie salad<br>- Borek with spinach and cheese<br>- Bun with cheese<br>- All the snacks are vegetarian | Not relevant |
| **Does the food court offer vegan options?** | - Muhammar (spread)<br>- Jam (spread)<br>- Sweet potato soup<br>- Celeriac parsnip soup<br>- Alpro cold coffee<br>- Alpro greek yoghurt | - Cinnamon bun<br>- Cookie<br>- Tomato soup<br>- Vegetable soup<br>- Alpro red fruit drink<br>- Wrap falafel<br>- Bun with muhammara<br>- Vegan salad | Not relevant |
| **Remarks about food courts** | No | Oat milk machine.<br><br>Uses less packaging than the other buildings.<br><br>Small food court. | No |
| **Are sustainable food products promoted via** | No | No | No |

| | | | |
|---|---|---|---|
| **posters or discount actions?** | | | |
| **How many vending machines are present?** | None | Three vending machines:<br>- Healthy food wall<br>- Soft drink vending machine with regular sodas<br>- Snack vending machine with no sustainable option | Three vending machines:<br>- Healthy food wall<br>- Soft drink vending machine with regular sodas<br>- Snack vending machine with no sustainable option |
| **Does the vending machine offer vegetarian/vegan options?** | Not relevant | Healthy food wall offers vegetarian/vegan options.<br><br>The regular machine has only oreo, snelle jelle and popcorn as vegan options.<br><br>All of the options are vegetarian, except the winegum. | Healthy food wall offers vegetarian/vegan options.<br><br>The regular machine has only oreo, snelle jelle and popcorn as vegan options.<br><br>All of the options are vegetarian, except the winegum. |

| Building | Refter | The yard (sportscentre) | Cultuurcafe |
|---|---|---|---|
| **Is there a separate coffeebar in the building?** | Yes (Café Panama) | Yes, but it is together with the food court. | Yes, but it is together with the food court. |
| **What does the coffeebar offer in general?** | Hot drinks, cold drinks, pastry, snacks, alcohol. | Hot drinks, cold drinks, beer, wine. | Hot drinks, cold drinks, alcohol. |
| **Are there vegetarian/vegan options?** | Vegetarian:<br>- Vegetarian sausage roll.<br>- Alle the snacks are vegetarian except a panini, sausage roll and grilled cheese ham sandwich.<br>Vegan:<br>Cinnamon roll | Not relevant | Not relevant |
| **Remarks about the coffee corner** | Offers breakfast every day between 8-10 (vegetarian). Also vegan possible. | They offer various sport drinks: Aquarius, AA drink, O2 life drink, protein shake. | No |
| **What does the food court offer in general?** | 1. Mama maria's: pizza, piandina's, schicciata, flammkuchen, salads, panna cotta, pasta de nata, cold drinks<br>2. Sousa: salad bar, clubsandwich, soup, grilled sandwiches, panini, deepfried snacks, croquette bun, fruit, different buns, cold drinks<br>3. Craft: offers every day a different diner<br>4. Deli tiger: wok noodles, ramen, side dishes, cold drinks<br>5. Angus: burgers, fries & more, cold drinks, menu's | Different sandwiches, different wraps panini, yoghurt, fruit, soup, pasty, snacks, salad. | Soup, grilled sandwiches, panini, snacks, bars, pastry, different buns, couscous salad. |
| **Does the food court offer vegetarian options?** | 1. Mama maria's: pizza margherita, pizza veggie, pizza quattro formaggi, flammkuchen, piandina caprese, piandina pulled mushroom, schicciata, pastel de nata<br>2. Sousa: bun hummus, bun brie, bun cream cheese, grilled cheese sandwich, vegetarian croquette bun, panini caprese<br>3. Craft: always vegetarian or vegan<br>4. Deli tiger: wok noodles and ramen are offered vegetarian<br>5. Angus: Refter burger(menu) , refter cheeseburger (menu), Caesar salad | - Grilled cheese sandwich<br>- Panini caprese<br>- Peanuts<br>- All pastry and snacks | - Grilled cheese sandwich<br>- Vegetarian bun<br>- Panini caprese<br>- All the pastries and snacks |
| **Does the food court offer vegan options?** | 1. Mama maria's: margherita vegan<br>2. Sousa: salad bar, onion soup and bun muhammara<br>3. Craft: in week 11, 3/5 days it is a vegan meal<br>4. Deli tiger: wok noodles, ramen and spring roll are offered vegan | - Onion soup<br>- Protein shake<br>- Lays natural crisps<br>- Vegetable crisps<br>- Soy drink | Couscous salad with falafel and soup. |

| | | | |
|---|---|---|---|
| | 5. Angus: loaded fries, veganaise (vegan mayonnaise), fish & chips | | |
| **Remarks about food court** | It is the biggest food court on the RU campus. | Small food court. | Really small food court, offers a lot of beers. |
| **Are sustainable food products promoted via posters or discount actions?** | No | No | No |
| **How many vending machines are present?** | None | Two vending machines:<br>- Soft drink vending machine with regular sodas.<br>- Snack vending machine with no sustainable option. | None |
| **Does the vending machine offer vegetarian/vegan options?** | Not relevant | The machine has only oreo, snelle jelle and popcorn as vegan options.<br><br>All of the options are vegetarian, except the winegum. | Not relevant |

| Building | Gigabite (Huygens) |
|---|---|
| Is there a separate coffeebar in the building? | Yes (Qubar) |
| What does the coffeebar offer in general? | Coffee, tea, bread, pastry, yoghurt, fruit, snacks. |
| Are there vegetarian/vegan options? | Vegetarian:<br>- All the pastry<br>- Vegetarian sandwich<br>- Vegetarian wrap<br>Vegan:<br>- Danish<br>- Cinnamon bun |
| Remarks about the coffee corner | No |
| What does the food court offer in general? | Cold drinks, bread, different bread toppings, hot snacks, salads, yoghurt, fruit, pastry, snacks. |
| Does the food court offer vegetarian options? | - Curry cauliflower soup<br>- Grilled cheese sandwich<br>- Oyster mushroom snack<br>- Vegetarian Unox sausage bun<br>- Vegetarian loempia<br>- “Kaassouffle”<br>- Cheese sandwich<br>- Egg sandwich<br>- Vegetarian tikka masala<br>- Caprese wholewheat wrap<br>- Caprese sandwich<br>- Cheese mustard sandwich<br>- Veggie salad<br>- All snacks and pastry |
| Does the food court offer vegan options? | - Tomato soup<br>- Vegan curry<br>- Vegan croissant<br>- Beet falafel wrap<br>- Vegan salad<br>- Alpro drink<br>- Alpro Greek yoghurt<br>- Alpro cold coffee<br>- Jam (spread)<br>- Cinnamon swirl<br>- Snelle jelle |
| Remarks about food court | No |
| Are sustainable food products promoted via posters or discount actions? | No |
| How many vending machines are present? | Three vending machines:<br>- Healthy food wall<br>- Soft drink vending machine with regular sodas<br>- Snack vending machine with no sustainable option |
| Does the vending machine offer vegetarian/vegan options? | Healthy food wall offers vegetarian/vegan options.<br><br>The regular machine has only oreo, snelle jelle and popcorn as vegan options.<br><br>All of the options are vegetarian, except the winegum. |

| Supplier | What do they offer? |
|---|---|
| Oregional | Cooperation of local farmers where the RU buys her potatoes, vegetables and fruit |
| ‘t Kraayennest | Local baker |
| Santas | Coffee supplier, but the coffee comes in cans instead of aluminium bags |
| MAAS | Plant-based milk and certificated coffee |

| | |
|---|---|
| **De Koekfabriek** | People with a distance to the labour market work here |
| **Droom!** | Local and people with a distance to the labour market work here |
| **De Verspillingsfabriek** | For example soups are made of vegetables that were thrown away otherwise |

## Observation protocol HAN

| Location | Laan van Scheut 10 Restaurant | Laan van Scheut 2 Restaurant | Kapittelweg 33 Restaurant |
|---|---|---|---|
| **Is there a separate coffeebar in the building?** | Yes (The Brew) | No | No |
| **What does the coffeebar offer in general?** | Hot drinks, cold drinks | Not relevant | Not relevant |
| **Are there vegetarian/vegan options?** | Not relevant | Not relevant | Not relevant |
| **Remarks about coffee corner** | Option of oatmilk and they offer free tony's chocolonely | No | No |
| **What does the food court offer in general?** | Different kind of buns, different kind of wraps, hot snacks, yoghurt, smoothie, salad, bars, snacks, fruit, soup. | Different kind of buns, different kind of wraps, hot snacks, pastry, snacks, fruit , cold drinks, yoghurt, bars, soup. | Different kind of buns, different kind of sandwiches, different kind of wraps, hot snacks, snacks, bars, cold drinks, soup, salad bar, yoghurt, smoothie, fruit, pastry. |
| **Does the food court offer vegetarian options?** | - Cream cheese bun<br>- Wild mushroom soup<br>- Brie wrap<br>- Pasta pesto salad<br>- Raisin cheese bun<br>- "Kaassouffle"<br>- Brie bun<br>- Mozzarella bun<br>- Salad bar<br>- All the snacks | - Muesli bun<br>- Croissant<br>- Cheese bun<br>- Cream cheese bun<br>- Brie bun<br>- Cream cheese wrap<br>- Veggie oats<br>- Panini cheese tomato<br>- Currant bun<br>- All the snacks and pastry | - Old cheese sandwich<br>- Pasta salad<br>- Egg salad baguette<br>- Cream cheese bun<br>- Mozzarella bun<br>- Cheese bun<br>- Brie bun<br>- Surinam peanut soup<br>- Brie pasta salad<br>- Old cheese and cream cheese wrap<br>- All of the snacks and pastry |
| **Does the food court offer vegan options?** | - Vegan tuna bun<br>- Nakd bar<br>- 5th season dried fruit<br>- Vegan bun (product of happiness)<br>- Falafel wrap | - Vegetable soup | - Tempeh poke bowl<br>- Hummus sandwich<br>- Vegan "Kaassouffle"<br>- Alpro cold coffee<br>- Alpro Greek yoghurt mango<br>- Alpro Greek yoghurt strawberry<br>- Alpro protein drink<br>- Hummus bun<br>- Muhammara bun<br>- All of the smoothies |

| | | | |
|---|---|---|---|
| **Remarks about food courts** | They sell reusable, hard plastic cups and lunchboxes. You have to pay for a cup and cutlery. | Organic mints.<br><br>QR-code to give you opinion about the “Billie Cup”. | No |
| **Are sustainable food products promoted via posters or discount actions?** | Every Monday and Friday a free piece of fruit for every costumer.<br><br>Vegan bun is a product of happiness, 3,05 euros instead of 3,95. Tasting of popped chips (vegan), a better alternative for normal chips. | Every Monday and Friday a free piece of fruit for every costumer.<br><br>Chaudfontaine water 500ml for 1 euro when purchasing a bun of 3,50 euro. | Every Monday and Friday a free piece of fruit for every costumer.<br><br>Pick and mix 3 different items for 5,50 euro. You can choose from Chaudfontaine water 500ml, granola bar, yoghurt, sandwich hummus, sandwich old cheese, pasta salad and poke bowl tempeh.<br><br>Chaudfontaine water 500ml for 1 euro when purchasing a bun of 3,50 euro.<br><br>Bun with hummus and muhammar contain a hip & healthy sticker. |
| **How many vending machines are present?** | None | Three vending machines:<br>- 2 with food and cold drinks<br>- 1 with sustainable “Billie Cup”s | Two vending machines:<br>- cold drinks<br>- cold drinks and snacks |
| **Does the vending machine offer vegetarian/vegan options?** | Not relevant | Vegetarian:<br>All of the options are vegetarian, except the winegum.<br><br>Vegan:<br>Pop chips and Katja biggetjes | Vegetarian:<br>All of the options are vegetarian, except the winegum.<br><br>Vegan:<br>Pop chips and Katja biggetjes |

| **Location** | **Kapittelweg 33 Zalloon** | **Kapittelweg 35 Restaurant** | **Kapittelweg 35 The Pub** |
|---|---|---|---|
| **Is there a separate coffeebar in the building?** | No | No | No |
| **What does the coffeebar offer in general?** | Not relevant | Not relevant | Not relevant |
| **Are there vegetarian/vegan options?** | Not relevant | Not relevant | Not relevant |
| **Remarks about coffee corner** | No | No | No |
| **What does the food court offer in general?** | Sandwiches, borrel bites, burgers, salad, hot drinks, alcohol, cold drinks, muffin and cake. | Different kind of buns, hot snacks, yoghurt, cold drinks, hot drinks, soup, snacks, pastry. | Sandwiches, borrel bites, burgers, salad, hot drinks, alcohol, cold drinks, muffin and pastry. |
| **Does the food court offer vegetarian options?** | - Muffin<br>- Tortellini<br>- Grilled mozzarella sandwich<br>- Autumn salad | - Aspergers soup<br>- Sweet potato soup<br>- Cream cheese wrap<br>- Mozzarella bun | - Muffin<br>- Brie salad<br>- Bread with oyster mushroom croquette |

| | | | |
|---|---|---|---|
| | - Nacho's with cheddar cheese<br>- Chips with mayonnaise<br>- Oyster mushroom "bitterballen"<br>- Cake | - Brie bun<br>- Cream cheese bun<br>- Cheese bun<br>- Egg salad baguette<br>- "Kaassouffle"<br>- Vegetarian sausage roll<br>- Panini mozzarella<br>- All the snacks and pasty | - Grilled brie sandwich<br>- Grilled cheese sandwich<br>- Grilled old cheese and pesto sandwich<br>- No chicken burger<br>- Nacho's with cheddar cheese<br>- Chips with truffle mayonnaise<br>- Sweet potato chips with chili dip |
| **Does the food court offer vegan options?** | - Oat- soy or coconut milk for coffee<br>- Plant-based burger | - Alpro cold coffee<br>- Hummus bun<br>- Bites we love<br>- Proper popcorn<br>- Snelle jelle<br>- Lays natural crisps | No |
| **Remarks about food courts** | They offer the oyster mushroom croquette only with the 'uitsmijter' which contains meat.<br><br>The Zalloon offeres every day a dinner. Stews (7,20 euro) and luxury (8,65 euro) meals, however this week nothing is vegetarian. | Coffee or tea with Zuivelhoeve for 2 euro. | No |
| **Are sustainable food products promoted via posters or discount actions?** | No | Bites we love, organic lentil chips are new and have a small information card. | No |
| **How many vending machines are present?** | See Kapittelweg 33 restaurant | Two vending machines: Both contain cold drinks and snacks | See Kapittelweg 35 restaurant |
| **Does the vending machine offer vegetarian/vegan options?** | See Kapittelweg 33 restaurant | Vegetarian:<br>All of the options.<br><br>Vegan:<br>Pop chips and Katja biggetjes | See Kapittelweg 35 restaurant |

| **Location** | **Groenewoudseweg 1** | **Prof. Molkenboerstraat 3** |
|---|---|---|
| **Is there a separate coffeebar in the building?** | No | No |
| **What does the coffeebar offer in general?** | Not relevant | Not relevant |
| **Are there vegetarian/vegan options?** | Not relevant | Not relevant |
| **Remarks about coffee corner** | No | No |

| | | |
|---|---|---|
| **What does the food court offer in general?** | Yoghurt, different kind of wraps, fruit, cold drinks, different kind of soft buns, soup, soup, snacks, bars. | Snacks, bars, soup, different kind of buns, different kind of wraps, cold drinks, hot drinks, yoghurt, fruit, pastry, soft buns. |
| **Does the food court offer vegetarian options?** | - All the soft buns<br>- Mozzarella bun<br>- Egg salad bun<br>- Onion soup<br>- Wild mushroom soup | - Currant cheese bun<br>- Brie wrap<br>- Onion soup<br>- Mustard soup<br>- Mozzarella bun<br>Cream cheese bun<br>- Brie bun<br>- Egg salad bun<br>- Cheese bun |
| **Does the food court offer vegan options?** | - Vegan wrap<br>- Tabouleh salad<br>- Lays natural crisps<br>- Popcorn<br>- Snelle jelle<br>- Bites we love (lentil crisps)<br>- Nakd bar | - Popcorn<br>- Bites we love (nutmix)<br>- Popped crisps<br>- Lays natural crisps<br>- Bites we love (lentil crisps) |
| **Remarks about food courts** | Vegan sign by a section with a vegan wrap and tabouleh salad. | Bites we love, organic lentil chips are new and have a small information card. |
| **Are sustainable food products promoted via posters or discount actions?** | Every Monday and Friday a free piece of fruit for every costumer. | Every Monday and Friday a free piece of fruit for every costumer. |
| **How many vending machines are present?** | 3 vending machines:<br>2 with only cold drinks<br>1 with cold drinks and snacks | 1 vending machine:<br>Snacks and cold drinks |
| **Does the vending machine offer vegetarian/vegan options?** | Pop chips are vegan.<br>Soft cheese bun is vegetarian.<br>All of the candy bars are also vegetarian. | Pop chips. All of the options are vegetarian, except the winegum. |

## Survey questions

Hello,

I am Yi Fu, a fourth years Geography, Spatial Planning and Environment student from the Radboud University. For my bachelor thesis I am researching whether the attitude of Radboud University and Hogeschool Arnhem Nijmegen students align with the food policy of the university. My main research question is: 'How do RU and HAN students' attitude towards sustainable food consumption align with emerging university food policy initiatives?'

Through this survey I would like to discover whether there is a link between the university's food policy and your sustainable food consumption behaviour. In this survey, sustainable food consumption is interpreted as consuming products that have the least harm for planet, people and animals. So when the term 'sustainable food' is mentioned in one of the questions, I refer to foods that are vegetarian and/or vegan and/or organic and/or fair trade and/or locally produced.

The results will be presented to the RU and HAN, so they can better adapt their food policies to what students want.

There are no good or bad answers, so please answer according to truth and not according to social desirability. The survey is completely anonymous and the answers will be used for educational purposes only. You can stop the survey at any time. If you have any questions, feel free to contact me: yifu.smits@ru.nl

Thank you for your participation.

Q1 How old are you?

Q2 With which gender do you identify?

- o Male (1)
- o Female (2)
- o Non-binary (3)
- o Prefer not to say (4)

Q3 At which university do you study?

- o RU (1)
- o HAN (2)

Q4 Which degree are you currently obtaining?

- o Bachelor (1)
- o Masters (2)

Q5 What do you study?

Q6 What kind of imcome do you have? - Multiple answers possible

- ☐ Supplementary grant (1)
- ☐ Loan (2)
- ☐ Salary (3)
- ☐ Money from parents/caretakers (4)

Q7 How much % of your money do you think you spend on food?

Q8 I do my own groceries most of the time.

- o Yes (1)
- o No (2)

Q9 The next questions are about how you think about sustainability. Please indicate to what extent you agree with the following statements.

| | Disagree (1) | Neutral (2) | Agree (3) |
|---|---|---|---|
| My knowledge about sustainability is great (1) | o | o | o |
| Veganism is the most sustainable diet (2) | o | o | o |
| The meat, diary, egg industry is bad for the environment (3) | o | o | o |
| I am worried about animal suffering (4) | o | o | o |
| I am worried about climate change (5) | o | o | o |
| I am worried about the consequences of climate change (think about rising sea-level, wars or heavy droughts) (6) | o | o | o |
| I am worried about food and water scarcity (7) | o | o | o |
| I am worried about the working conditions of workers producing food (8) | o | o | o |

Q10 What factors influence your food consumption behaviour when you do not have to take into account other people, just only yourself? Indicate to what extent the following factors influence your food choices.

| | No influence (1) | A little bit of inluence (2) | A lot of influence (3) | All determining (4) |
|---|---|---|---|---|
| The price of the product (1) | o | o | o | o |
| The taste of the product (2) | o | o | o | o |
| Whether the product is healthy (3) | o | o | o | o |
| How easy it is to cook the product (4) | o | o | o | o |
| How much CO2 is released by producing the product (5) | o | o | o | o |
| How much water is used by producing the product (6) | o | o | o | o |
| How much animal suffering took place by producing the product (7) | o | o | o | o |
| Whether the workers, involved in producing the product, have decent working conditions (8) | o | o | o | o |
| Whether the product is locally produced (9) | o | o | o | o |
| Whether the product is organic (10) | o | o | o | o |

Q11 Indicate to what extent the following statements apply to you.

| | Disagree (1) | Neutral (2) | Agree (3) |
|---|---|---|---|
| Veganism is the most sustainable diet (1) | o | o | o |
| Buying sustainable products makes a strong difference in the world (2) | o | o | o |

Q12 The next statements are about the possibilities that you think you have when it comes to sustainable food and your willingness to consume sustainable food. Indicate to which extent the sub-statements are applicable to you.

| | Disagree (1) | Neutral (2) | Agree (3) |
|---|---|---|---|
| If I had more money, I would consume more sustainable food (1) | o | o | o |
| If I had more time, I would consume more sustainable food (2) | o | o | o |
| If the university would offer more sustainable food, I would consume more sustainable food (3) | o | o | o |
| If I had more knowledge about sustainable food, I would consume more sustainable food (4) | o | o | o |

Q13 If no factors are involved (think about money, taste, effort, convenience, time, etc.) would you eat more sustainable?

- o Yes (1)
- o No (2)

Q14 Fill in what is applicable to you.

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| From the dinners you are going to cook in the next 7 days, how much of the diners are going to be vegetarian? (1) | o | o | o | o | o | o | o | o |
| From the dinners you are going to cook in the next 7 days, how much of the diners are going to be vegan? (2) | o | o | o | o | o | o | o | o |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one fair trade product? (3) | o | o | o | o | o | o | o | o |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one organic product? (4) | o | o | o | o | o | o | o | o |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one locally produced product? (5) | o | o | o | o | o | o | o | o |

Q15 Fill in what is applicable to you.

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| From the diners that you ate in the past 7 days, how much of the diners where vegetarian? (1) | o | o | o | o | o | o | o | o |
| From the diners that you ate in the past 7 days, how much of the diners where vegan? (2) | o | o | o | o | o | o | o | o |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one fair trade product? (3) | o | o | o | o | o | o | o | o |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one organic product? (4) | o | o | o | o | o | o | o | o |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one locally produced product? (5) | o | o | o | o | o | o | o | o |

Q16 On average, how many times a week do you buy food at university? (the Spar University not included)?

- o Never (0 times a week) (1)
- o Sometimes (0-1 times a week) (2)
- o Regular (1-3 times a week) (3)
- o Often (3-4 times a week) (4)
- o Always (>5 times a week) (5)

Q17 What is the reason that you buy food at the university?

Q18 Are you aware of the sustainable food options at the university?

- o Yes, I am fully aware (1)
- o Yes, I am a little bit aware (2)
- o No, I have no idea (3)

Q19 Have you ever consumed sustainable food on the university?

- o Yes (1)
- o No (2)
- o I don't know (3)

Q20 What did you eat?

Q21 Would you buy the food again?

- o Yes (1)
- o No (2)

Q22 Why would(n't) you buy it again?

Q23 Has the university made you more positive towards sustainable food consumption?

- o Yes (1)
- o No (2)
- o Other (3) _____

Q24 What do you think about the current food policy of the university?

Q25 What kind of foods would you like to see offered (more) at the university?

## SPSS data

### Frequencies

**How old are you?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 17 | 1 | 1,1 | 1,1 | 1,1 |
| | 18 | 5 | 5,3 | 5,3 | 6,4 |
| | 19 | 11 | 11,7 | 11,7 | 18,1 |
| | 20 | 23 | 24,5 | 24,5 | 42,6 |
| | 21 | 26 | 27,7 | 27,7 | 70,2 |
| | 22 | 13 | 13,8 | 13,8 | 84,0 |
| | 23 | 8 | 8,5 | 8,5 | 92,6 |
| | 24 | 2 | 2,1 | 2,1 | 94,7 |
| | 25 | 3 | 3,2 | 3,2 | 97,9 |
| | 26 | 1 | 1,1 | 1,1 | 98,9 |
| | 27 | 1 | 1,1 | 1,1 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

**With which gender do you identify?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 25 | 26,6 | 26,6 | 26,6 |
| | Female | 67 | 71,3 | 71,3 | 97,9 |
| | Non-binary | 1 | 1,1 | 1,1 | 98,9 |
| | Prefer not to say | 1 | 1,1 | 1,1 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

**What kind of income do you have?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Supplementary grant | 1 | 1,1 | 1,1 | 1,1 |
| | Loan | 1 | 1,1 | 1,1 | 2,1 |
| | Salary | 14 | 14,9 | 14,9 | 17,0 |
| | Money from parents/caretakers | 6 | 6,4 | 6,4 | 23,4 |
| | Supplementary grant & Loan | 1 | 1,1 | 1,1 | 24,5 |
| | Supplementary grant & Salary | 2 | 2,1 | 2,1 | 26,6 |
| | Supplementary grant & Money from parents/caretakers | 1 | 1,1 | 1,1 | 27,7 |
| | Loan & Salary | 14 | 14,9 | 14,9 | 42,6 |
| | Loan & Money from parents/caretakers | 3 | 3,2 | 3,2 | 45,7 |
| | Salary & Money from parents/caretakers | 21 | 22,3 | 22,3 | 68,1 |
| | Supplementary grant & Loan & Salary | 2 | 2,1 | 2,1 | 70,2 |
| | Supplementary grant & Loan & Money from parents/caretakers | 1 | 1,1 | 1,1 | 71,3 |
| | Supplementary grant & Salary & Money from parents/caretakers | 3 | 3,2 | 3,2 | 74,5 |
| | Loan & Salary & Money from parents/caretakers | 20 | 21,3 | 21,3 | 95,7 |
| | Supplementary grant & Loan & Salary & Money from parents/caretakers | 4 | 4,3 | 4,3 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

**What do you study?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Comparative Politics | 1 | 1,1 | 1,1 | 1,1 |
| | Nutrition & Dietetics | 1 | 1,1 | 1,1 | 2,1 |
| | Art Therapy | 1 | 1,1 | 1,1 | 3,2 |
| | Artificial Intelligence | 1 | 1,1 | 1,1 | 4,3 |
| | Biology Teacher | 1 | 1,1 | 1,1 | 5,3 |
| | Biomedical Sciences | 1 | 1,1 | 1,1 | 6,4 |
| | Business Administration | 2 | 2,1 | 2,1 | 8,5 |
| | CMD | 1 | 1,1 | 1,1 | 9,6 |
| | Commercial Economics | 1 | 1,1 | 1,1 | 10,6 |
| | Cultural Science | 1 | 1,1 | 1,1 | 11,7 |
| | Economics & BE | 2 | 2,1 | 2,1 | 13,8 |
| | Educational Science | 4 | 4,3 | 4,3 | 18,1 |
| | Engineering | 1 | 1,1 | 1,1 | 19,1 |
| | English Teacher | 6 | 6,4 | 6,4 | 25,5 |
| | German Language and Culture | 1 | 1,1 | 1,1 | 26,6 |
| | GPE | 10 | 10,6 | 10,6 | 37,2 |
| | Health & Technology | 1 | 1,1 | 1,1 | 38,3 |
| | History Teacher | 1 | 1,1 | 1,1 | 39,4 |
| | International Business Communication | 1 | 1,1 | 1,1 | 40,4 |
| | International Relations | 1 | 1,1 | 1,1 | 41,5 |
| | Law | 4 | 4,3 | 4,3 | 45,7 |
| | Law & Economics | 2 | 2,1 | 2,1 | 47,9 |
| | Law & Management | 1 | 1,1 | 1,1 | 48,9 |
| | Master Human Geography | 1 | 1,1 | 1,1 | 50,0 |
| | Master Spatial Planning | 1 | 1,1 | 1,1 | 51,1 |
| | Mater Spatial Planning | 1 | 1,1 | 1,1 | 52,1 |
| | Medicine | 3 | 3,2 | 3,2 | 55,3 |
| | MLS | 1 | 1,1 | 1,1 | 56,4 |
| | Nursing | 23 | 24,5 | 24,5 | 80,9 |
| | PABO | 1 | 1,1 | 1,1 | 81,9 |
| | Pedagogy | 4 | 4,3 | 4,3 | 86,2 |
| | Physics & Astronomy | 1 | 1,1 | 1,1 | 87,2 |
| | Psychology | 4 | 4,3 | 4,3 | 91,5 |
| | Public Administration | 1 | 1,1 | 1,1 | 92,6 |
| | Science | 1 | 1,1 | 1,1 | 93,6 |
| | Social Work | 5 | 5,3 | 5,3 | 98,9 |
| | Sociology | 1 | 1,1 | 1,1 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

**I do my own groceries most of the time.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 67 | 71,3 | 71,3 | 71,3 |
| | No | 27 | 28,7 | 28,7 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

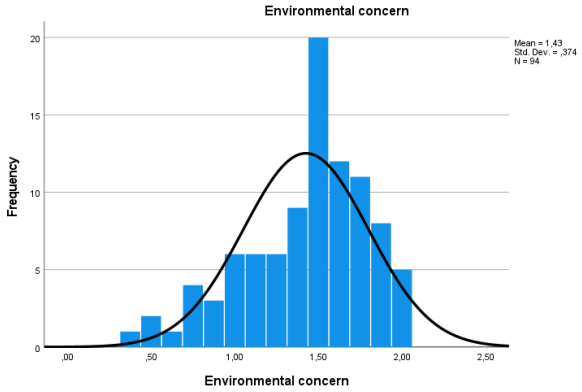
**Are you aware of the sustainable food options at the university?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes, I am fully aware | 5 | 5,3 | 5,3 | 5,3 |
| | Yes, I am a little bit aware | 40 | 42,6 | 42,6 | 47,9 |
| | No, I have no idea | 49 | 52,1 | 52,1 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

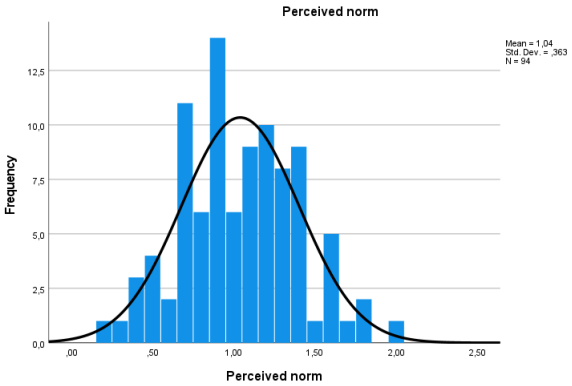
**How much % of your money do you think you spend on food?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 10% | 13 | 13,8 | 13,8 | 13,8 |
| | 15% | 8 | 8,5 | 8,5 | 22,3 |
| | 20% | 17 | 18,1 | 18,1 | 40,4 |
| | 25% | 8 | 8,5 | 8,5 | 48,9 |
| | 30% | 17 | 18,1 | 18,1 | 67,0 |
| | 35% | 4 | 4,3 | 4,3 | 71,3 |
| | 40% | 12 | 12,8 | 12,8 | 84,0 |
| | 5% | 5 | 5,3 | 5,3 | 89,4 |
| | 50% | 4 | 4,3 | 4,3 | 93,6 |
| | 60% | 2 | 2,1 | 2,1 | 95,7 |
| | 65% | 2 | 2,1 | 2,1 | 97,9 |
| | 70% | 2 | 2,1 | 2,1 | 100,0 |
| | Total | 94 | 100,0 | 100,0 | |

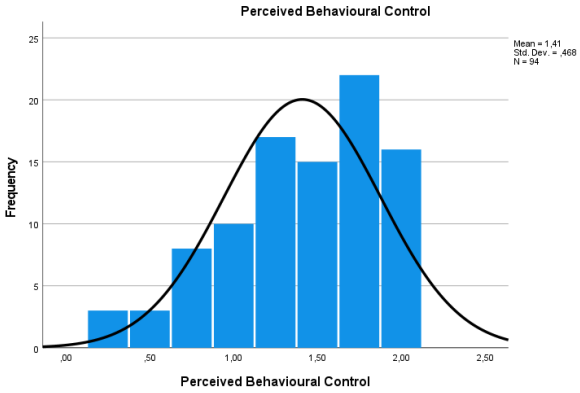
## Normal distribution *environmental concern*




## Normal distribution *perceived norm*




## Normal distribution *perceived behavioural control*




## Independent t-test *environmental concern*

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Environmental concern | RU | 46 | 1,5136 | ,35574 | ,05245 |
| | HAN | 48 | 1,3411 | ,37610 | ,05428 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| Environmental concern | Equal variances assumed | ,714 | ,400 | 2,282 | 92 | ,012 | ,025 | ,17244 | ,07557 | ,02234 | ,32254 |
| | Equal variances not assumed | | | 2,284 | 91,985 | ,012 | ,025 | ,17244 | ,07548 | ,02252 | ,32236 |

## Independent t-test *environmental concern* sub-statements

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| ec_workingr | RU | 46 | 1,2391 | ,79400 | ,11707 |
| | HAN | 48 | 1,3125 | ,74822 | ,10800 |
| ec_knowr | RU | 46 | 1,4130 | ,61738 | ,09103 |
| | HAN | 48 | 1,1042 | ,59213 | ,08547 |
| ec_veganr | RU | 46 | 1,0435 | ,78758 | ,11612 |
| | HAN | 48 | ,7292 | ,67602 | ,09758 |
| ec_dairyr | RU | 46 | 1,7826 | ,51264 | ,07558 |
| | HAN | 48 | 1,3958 | ,73628 | ,10627 |
| ec_animalr | RU | 46 | 1,3913 | ,68242 | ,10062 |
| | HAN | 48 | 1,4583 | ,71335 | ,10296 |
| ec_ccr | RU | 46 | 1,8478 | ,41991 | ,06191 |
| | HAN | 48 | 1,7292 | ,53553 | ,07730 |
| ec_cccr | RU | 46 | 1,8043 | ,54240 | ,07997 |
| | HAN | 48 | 1,7500 | ,56493 | ,08154 |
| ec_scarcr | RU | 46 | 1,5870 | ,68560 | ,10109 |
| | HAN | 48 | 1,2500 | ,75794 | ,10940 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| ec_workingr | Equal variances assumed | ,239 | ,626 | -,461 | 92 | ,323 | ,646 | -,07337 | ,15907 | -,38930 | ,24256 |
| | Equal variances not assumed | | | -,461 | 91,048 | ,323 | ,646 | -,07337 | ,15927 | -,38975 | ,24301 |
| ec_knowr | Equal variances assumed | 4,454 | ,038 | 2,476 | 92 | ,008 | ,015 | ,30888 | ,12475 | ,06111 | ,55664 |
| | Equal variances not assumed | | | 2,474 | 91,344 | ,008 | ,015 | ,30888 | ,12486 | ,06087 | ,55689 |
| ec_veganr | Equal variances assumed | ,302 | ,584 | 2,079 | 92 | ,020 | ,040 | ,31431 | ,15118 | ,01405 | ,61457 |
| | Equal variances not assumed | | | 2,072 | 88,661 | ,021 | ,041 | ,31431 | ,15168 | ,01292 | ,61570 |
| ec_dairyr | Equal variances assumed | 17,440 | <,001 | 2,944 | 92 | ,002 | ,004 | ,38678 | ,13139 | ,12583 | ,64772 |
| | Equal variances not assumed | | | 2,966 | 84,100 | ,002 | ,004 | ,38678 | ,13041 | ,12744 | ,64611 |
| ec_animalr | Equal variances assumed | ,135 | ,714 | -,465 | 92 | ,321 | ,643 | -,06703 | ,14410 | -,35322 | ,21917 |
| | Equal variances not assumed | | | -,466 | 92,000 | ,321 | ,643 | -,06703 | ,14396 | -,35295 | ,21889 |
| ec_ccr | Equal variances assumed | 5,142 | ,026 | 1,192 | 92 | ,118 | ,236 | ,11866 | ,09954 | -,07905 | ,31636 |
| | Equal variances not assumed | | | 1,198 | 88,574 | ,117 | ,234 | ,11866 | ,09904 | -,07814 | ,31545 |
| ec_cccr | Equal variances assumed | ,628 | ,430 | ,475 | 92 | ,318 | ,636 | ,05435 | ,11431 | -,17269 | ,28138 |
| | Equal variances not assumed | | | ,476 | 92,000 | ,318 | ,635 | ,05435 | ,11421 | -,17249 | ,28119 |
| ec_scarcr | Equal variances assumed | 1,170 | ,282 | 2,257 | 92 | ,013 | ,026 | ,33696 | ,14927 | ,04049 | ,63342 |
| | Equal variances not assumed | | | 2,262 | 91,701 | ,013 | ,026 | ,33696 | ,14895 | ,04111 | ,63280 |

## Independent t-test *perceived norm*

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Perceived norm | RU | 46 | ,9826 | ,32612 | ,04808 |
| | HAN | 48 | 1,0938 | ,38998 | ,05629 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| Perceived norm | Equal variances assumed | ,613 | ,436 | -1,496 | 92 | ,069 | ,138 | -,11114 | ,07431 | -,25873 | ,03645 |
| | Equal variances not assumed | | | -1,501 | 90,364 | ,068 | ,137 | -,11114 | ,07403 | -,25821 | ,03593 |

## Independent t-test *perceived norm* sub-statements

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| p_pricer | RU | 46 | ,9348 | ,49000 | ,07225 |
| | HAN | 48 | 1,0208 | ,48332 | ,06976 |
| p_taster | RU | 46 | 1,9565 | ,51452 | ,07586 |
| | HAN | 48 | 2,0625 | ,52212 | ,07536 |
| p_healthyr | RU | 46 | 1,5870 | ,71728 | ,10576 |
| | HAN | 48 | 1,7083 | ,45934 | ,06630 |
| p_cookr | RU | 46 | 1,4130 | ,74762 | ,11023 |
| | HAN | 48 | 1,3333 | ,85883 | ,12396 |
| p_CO2r | RU | 46 | ,5217 | ,62322 | ,09189 |
| | HAN | 48 | ,6250 | ,60582 | ,08744 |
| p_waterr | RU | 46 | ,4130 | ,61738 | ,09103 |
| | HAN | 48 | ,5000 | ,61885 | ,08932 |
| p_sufferingr | RU | 46 | 1,0000 | ,76012 | ,11207 |
| | HAN | 48 | 1,2708 | ,84399 | ,12182 |
| p_workingr | RU | 46 | ,6522 | ,67387 | ,09936 |
| | HAN | 48 | ,9375 | ,88501 | ,12774 |
| p_localr | RU | 46 | ,6522 | ,70608 | ,10411 |
| | HAN | 48 | ,6042 | ,60983 | ,08802 |
| p_organicr | RU | 46 | ,6957 | ,62786 | ,09257 |
| | HAN | 48 | ,8750 | ,78889 | ,11387 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| p_pricer | Equal variances assumed | ,224 | ,637 | -,857 | 92 | ,197 | ,394 | -,08605 | ,10040 | -,28545 | ,11335 |
| | Equal variances not assumed | | | -,857 | 91,705 | ,197 | ,394 | -,08605 | ,10043 | -,28552 | ,11342 |
| p_taster | Equal variances assumed | ,061 | ,805 | -,991 | 92 | ,162 | ,324 | -,10598 | ,10697 | -,31842 | ,10646 |
| | Equal variances not assumed | | | -,991 | 91,926 | ,162 | ,324 | -,10598 | ,10693 | -,31836 | ,10640 |
| p_healthyr | Equal variances assumed | 15,473 | <,001 | -,981 | 92 | ,165 | ,329 | -,12138 | ,12370 | -,36706 | ,12431 |
| | Equal variances not assumed | | | -,972 | 76,072 | ,167 | ,334 | -,12138 | ,12482 | -,36998 | ,12722 |
| p_cookr | Equal variances assumed | ,840 | ,362 | ,479 | 92 | ,317 | ,633 | ,07971 | ,16638 | -,25073 | ,41015 |
| | Equal variances not assumed | | | ,481 | 91,175 | ,316 | ,632 | ,07971 | ,16588 | -,24979 | ,40921 |
| p_CO2r | Equal variances assumed | ,159 | ,691 | -,815 | 92 | ,209 | ,417 | -,10326 | ,12677 | -,35503 | ,14851 |
| | Equal variances not assumed | | | -,814 | 91,535 | ,209 | ,418 | -,10326 | ,12685 | -,35520 | ,14868 |
| p_waterr | Equal variances assumed | ,184 | ,669 | -,682 | 92 | ,249 | ,497 | -,08696 | ,12754 | -,34026 | ,16635 |
| | Equal variances not assumed | | | -,682 | 91,848 | ,249 | ,497 | -,08696 | ,12753 | -,34025 | ,16634 |
| p_sufferingr | Equal variances assumed | 2,293 | ,133 | -1,632 | 92 | ,053 | ,106 | -,27083 | ,16590 | -,60033 | ,05866 |
| | Equal variances not assumed | | | -1,636 | 91,654 | ,053 | ,105 | -,27083 | ,16553 | -,59961 | ,05794 |
| p_workingr | Equal variances assumed | 1,456 | ,231 | -1,753 | 92 | ,041 | ,083 | -,28533 | ,16276 | -,60858 | ,03793 |
| | Equal variances not assumed | | | -1,763 | 87,588 | ,041 | ,081 | -,28533 | ,16183 | -,60695 | ,03630 |
| p_localr | Equal variances assumed | 1,452 | ,231 | ,353 | 92 | ,362 | ,725 | ,04801 | ,13590 | -,22191 | ,31792 |
| | Equal variances not assumed | | | ,352 | 88,858 | ,363 | ,726 | ,04801 | ,13633 | -,22288 | ,31890 |
| p_organicr | Equal variances assumed | ,823 | ,367 | -1,216 | 92 | ,113 | ,227 | -,17935 | ,14746 | -,47221 | ,11352 |
| | Equal variances not assumed | | | -1,222 | 89,037 | ,112 | ,225 | -,17935 | ,14675 | -,47093 | ,11224 |

## Independent t-test *perceived behavioural control*

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Perceived Behavioural Control | RU | 46 | 1,3370 | ,43211 | ,06371 |
| | HAN | 48 | 1,4792 | ,49420 | ,07133 |

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| Perceived Behavioural Control | Equal variances assumed | ,621 | ,433 | -1,483 | 92 | ,071 | ,142 | -,14221 | ,09592 | -,33271 | ,04829 |
| | Equal variances not assumed | | | -1,487 | 91,248 | ,070 | ,140 | -,14221 | ,09564 | -,33218 | ,04776 |

## Independent t-test *perceived behavioural control* sub-statements

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| pbc_moneyr | RU | 46 | 1,93478 | ,249637 | ,036807 |
| | HAN | 48 | 1,87500 | ,443631 | ,064033 |
| pbc_timer | RU | 46 | 1,2174 | ,84098 | ,12400 |
| | HAN | 48 | 1,3125 | ,82916 | ,11968 |
| pbc_unir | RU | 46 | 1,0217 | ,82970 | ,12233 |
| | HAN | 48 | 1,4167 | ,73899 | ,10666 |
| pbc_knowr | RU | 46 | 1,1739 | ,73950 | ,10903 |
| | HAN | 48 | 1,3125 | ,77614 | ,11203 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | Mean | Std. Error | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Difference | Difference | Lower | Upper |
| pbc_moneyr | Equal variances assumed | 2,808 | ,097 | ,800 | 92 | ,213 | ,426 | ,059783 | ,074687 | -,088551 | ,208117 |
| | Equal variances not assumed | | | ,809 | 74,675 | ,210 | ,421 | ,059783 | ,073858 | -,087360 | ,206925 |
| pbc_timer | Equal variances assumed | ,003 | ,959 | -,552 | 92 | ,291 | ,582 | -,09511 | ,17228 | -,43727 | ,24705 |
| | Equal variances not assumed | | | -,552 | 91,700 | ,291 | ,582 | -,09511 | ,17233 | -,43739 | ,24717 |
| pbc_unir | Equal variances assumed | ,087 | ,769 | -2,439 | 92 | ,008 | ,017 | -,39493 | ,16190 | -,71648 | -,07338 |
| | Equal variances not assumed | | | -2,433 | 89,759 | ,008 | ,017 | -,39493 | ,16230 | -,71738 | -,07247 |
| pbc_knowr | Equal variances assumed | ,977 | ,326 | -,886 | 92 | ,189 | ,378 | -,13859 | ,15649 | -,44939 | ,17221 |
| | Equal variances not assumed | | | -,887 | 91,997 | ,189 | ,378 | -,13859 | ,15633 | -,44907 | ,17189 |

## Regression analyses demographics *environmental concern*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,211[a] | ,044 | -,010 | ,37630 | ,044 | ,820 | 5 | 88 | ,539 |

a. Predictors: (Constant), What kind of income do you have? Total , With which gender do you identify?, Which degree are you currently obtaining?, What do you study?, How old are you?

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | ,580 | 5 | ,116 | ,820 | ,539[b] |
| | Residual | 12,461 | 88 | ,142 | | |
| | Total | 13,041 | 93 | | | |

a. Dependent Variable: Environmental concern

b. Predictors: (Constant), What kind of income do you have? Total , With which gender do you identify?, Which degree are you currently obtaining?, What do you study?, How old are you?

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | ,889 | ,584 | | 1,522 | ,132 | -,272 | 2,050 |
| | How old are you? | ,009 | ,026 | ,043 | ,344 | ,732 | -,042 | ,060 |
| | With which gender do you identify? | ,017 | ,079 | ,024 | ,221 | ,826 | -,139 | ,174 |
| | Which degree are you currently obtaining? | ,070 | ,151 | ,055 | ,462 | ,645 | -,230 | ,370 |
| | What do you study? | ,003 | ,005 | ,082 | ,747 | ,457 | -,006 | ,012 |
| | What kind of income do you have? Total | ,019 | ,010 | ,206 | 1,822 | ,072 | -,002 | ,039 |

a. Dependent Variable: Environmental concern

## Regression analyses demographics *perceived norm*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,186[a] | ,035 | -,020 | ,36622 | ,035 | ,629 | 5 | 88 | ,678 |

a. Predictors: (Constant), What kind of income do you have? Total , With which gender do you identify?, Which degree are you currently obtaining?, What do you study?, How old are you?

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | ,422 | 5 | ,084 | ,629 | ,678[b] |
| | Residual | 11,803 | 88 | ,134 | | |
| | Total | 12,224 | 93 | | | |

a. Dependent Variable: Perceived norm

b. Predictors: (Constant), What kind of income do you have? Total , With which gender do you identify?, Which degree are you currently obtaining?, What do you study?, How old are you?

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. | 95,0% Confidence Interval for B Lower Bound | 95,0% Confidence Interval for B Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | ,603 | ,569 | | 1,061 | ,292 | -,527 | 1,733 |
| | How old are you? | ,002 | ,025 | ,011 | ,089 | ,929 | -,048 | ,052 |
| | With which gender do you identify? | ,084 | ,077 | ,119 | 1,091 | ,278 | -,069 | ,236 |
| | Which degree are you currently obtaining? | ,123 | ,147 | ,100 | ,836 | ,405 | -,169 | ,415 |
| | What do you study? | ,004 | ,004 | ,105 | ,947 | ,346 | -,005 | ,013 |
| | What kind of income do you have? Total | ,002 | ,010 | ,022 | ,197 | ,844 | -,018 | ,022 |

a. Dependent Variable: Perceived norm

## Regression analyses demographics *perceived behavioural control*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics R Square Change | Change Statistics F Change | Change Statistics df1 | Change Statistics df2 | Change Statistics Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,279[a] | ,078 | ,025 | ,46185 | ,078 | 1,486 | 5 | 88 | ,202 |

a. Predictors: (Constant), What kind of income do you have? Total , With which gender do you identify?, Which degree are you currently obtaining?, What do you study?, How old are you?

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 1,585 | 5 | ,317 | 1,486 | ,202[b] |
| | Residual | 18,771 | 88 | ,213 | | |
| | Total | 20,356 | 93 | | | |

a. Dependent Variable: Perceived Behavioural Control

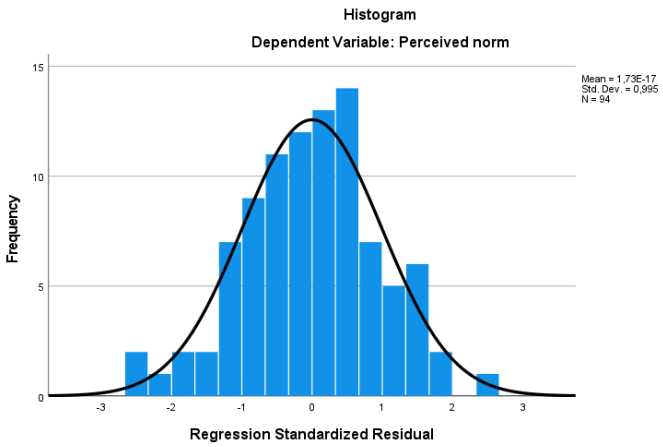
b. Predictors: (Constant), What kind of income do you have? Total , With which gender do you identify?, Which degree are you currently obtaining?, What do you study?, How old are you?

**Coefficients[a]**

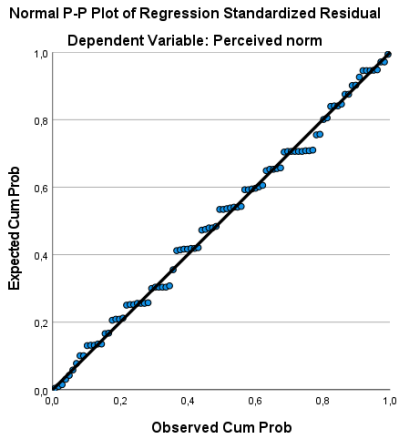
| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. | 95,0% Confidence Interval for B Lower Bound | 95,0% Confidence Interval for B Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | ,922 | ,717 | | 1,286 | ,202 | -,503 | 2,347 |
| | How old are you? | ,006 | ,032 | ,024 | ,201 | ,841 | -,057 | ,069 |
| | With which gender do you identify? | ,222 | ,097 | ,245 | 2,294 | ,024 | ,030 | ,414 |
| | Which degree are you currently obtaining? | ,130 | ,185 | ,082 | ,704 | ,483 | -,238 | ,499 |
| | What do you study? | -,007 | ,006 | -,141 | -1,300 | ,197 | -,018 | ,004 |
| | What kind of income do you have? Total | -,003 | ,013 | -,026 | -,236 | ,814 | -,028 | ,022 |

a. Dependent Variable: Perceived Behavioural Control

## Histogram *environmental concern - perceived norm*



## Scatterplot *environmental concern – perceived norm*




## Regression *environmental concern – perceived norm*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | ,421[a] | ,177 | ,168 | ,33067 |

a. Predictors: (Constant), Environmental concern

b. Dependent Variable: Perceived norm

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2,165 | 1 | 2,165 | 19,795 | <,001[b] |
| | Residual | 10,060 | 92 | ,109 | | |
| | Total | 12,224 | 93 | | | |

a. Dependent Variable: Perceived norm

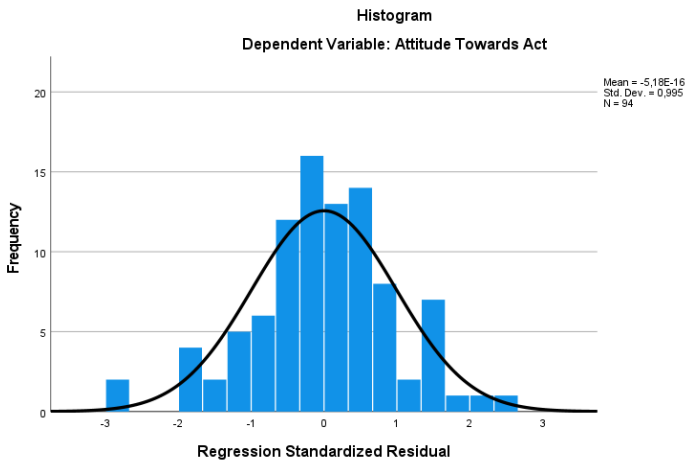
b. Predictors: (Constant), Environmental concern

**Coefficients[a]**

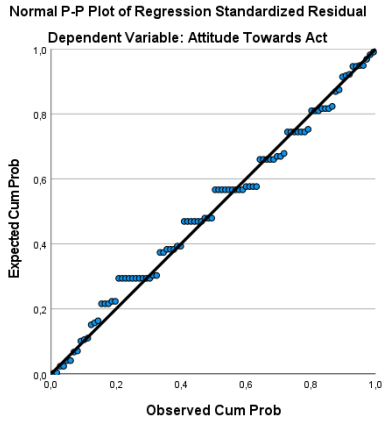
| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | ,459 | ,135 | | 3,399 | ,001 |
| | Environmental concern | ,407 | ,092 | ,421 | 4,449 | <,001 |

a. Dependent Variable: Perceived norm

## Histogram *environmental concern – attitude*



## Scatterplot *environmental concern – attitude*




## Regression *environmental concern – attitude*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,594[a] | ,352 | ,345 | ,41690 | ,352 | 50,080 | 1 | 92 | <,001 |

a. Predictors: (Constant), Environmental concern
b. Dependent Variable: Attitude Towards Act

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 8,704 | 1 | 8,704 | 50,080 | <,001[b] |
| | Residual | 15,990 | 92 | ,174 | | |
| | Total | 24,694 | 93 | | | |

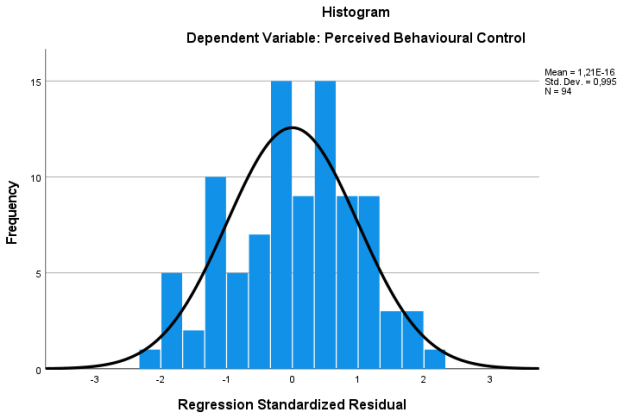
a. Dependent Variable: Attitude Towards Act
b. Predictors: (Constant), Environmental concern

**Coefficients[a]**

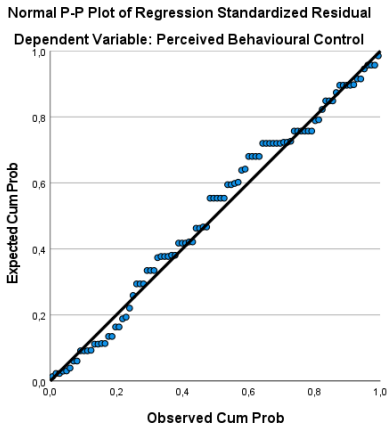
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | ,000 | ,170 | | ,002 | ,999 | -,338 | ,338 |
| | Environmental concern | ,817 | ,115 | ,594 | 7,077 | <,001 | ,588 | 1,046 |

a. Dependent Variable: Attitude Towards Act

## Histogram *environmental concern – perceived behavioural control*



## Scatterplot *environmental concern – perceived behavioural control*




## Regression *environmental concern – perceived behavioural control*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,326[a] | ,106 | ,096 | ,44476 | ,106 | 10,907 | 1 | 92 | ,001 |

a. Predictors: (Constant), Environmental concern
b. Dependent Variable: Perceived Behavioural Control

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2,158 | 1 | 2,158 | 10,907 | ,001[b] |
| | Residual | 18,199 | 92 | ,198 | | |
| | Total | 20,356 | 93 | | | |

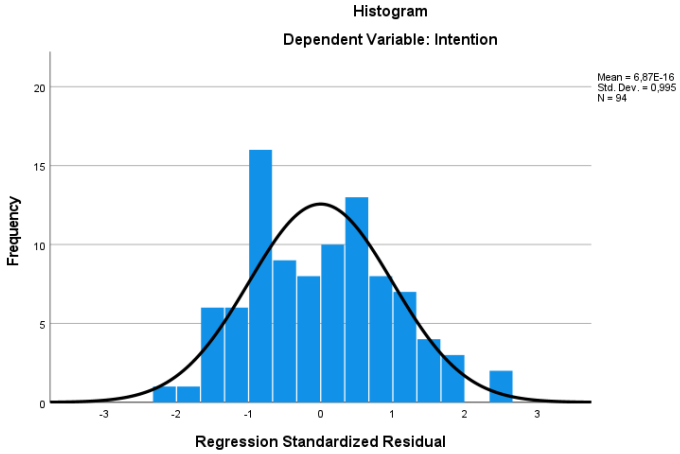
a. Dependent Variable: Perceived Behavioural Control
b. Predictors: (Constant), Environmental concern

**Coefficients[a]**

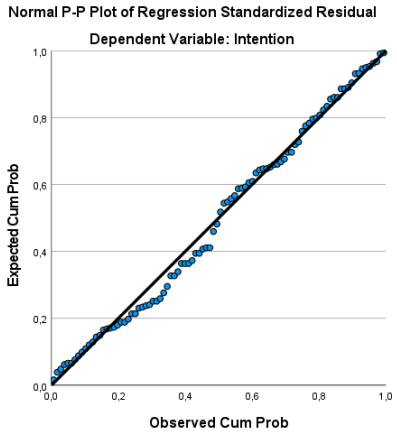
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | ,830 | ,181 | | 4,573 | <,001 | ,469 | 1,190 |
| | Environmental concern | ,407 | ,123 | ,326 | 3,303 | ,001 | ,162 | ,651 |

a. Dependent Variable: Perceived Behavioural Control

## Histogram *perceived norm – intention*



## Scatterplot *perceived norm – intention*




## Regression *perceived norm – intention*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,569[a] | ,323 | ,316 | 1,27849 | ,323 | 43,992 | 1 | 92 | <,001 |

a. Predictors: (Constant), Perceived norm

b. Dependent Variable: Intention

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 71,906 | 1 | 71,906 | 43,992 | <,001[b] |
| | Residual | 150,378 | 92 | 1,635 | | |
| | Total | 222,284 | 93 | | | |

a. Dependent Variable: Intention

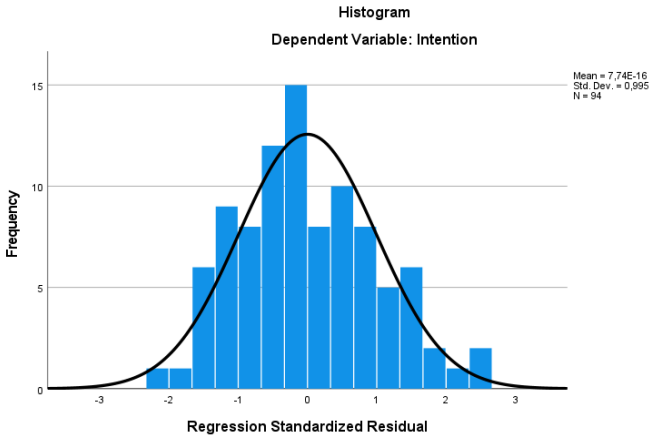
b. Predictors: (Constant), Perceived norm

**Coefficients[a]**

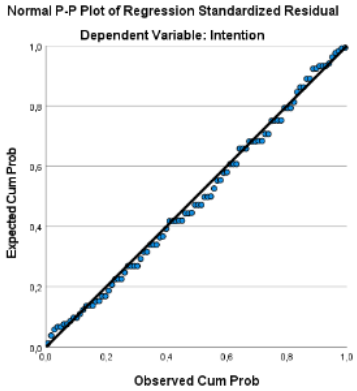
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 1,347 | ,402 | | 3,349 | ,001 | ,548 | 2,146 |
| | Perceived norm | 2,425 | ,366 | ,569 | 6,633 | <,001 | 1,699 | 3,152 |

a. Dependent Variable: Intention

## Histogram *attitude – intention*



## Scatterplot *attitude – intention*




## Regression *attitude – intention*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,331[a] | ,110 | ,100 | 1,46661 | ,110 | 11,342 | 1 | 92 | ,001 |

a. Predictors: (Constant), Attitude Towards Act

b. Dependent Variable: Intention

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 24,396 | 1 | 24,396 | 11,342 | ,001[b] |
| | Residual | 197,888 | 92 | 2,151 | | |
| | Total | 222,284 | 93 | | | |

a. Dependent Variable: Intention

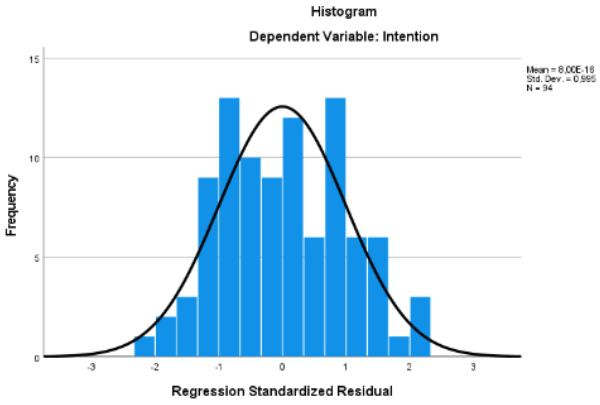
b. Predictors: (Constant), Attitude Towards Act

**Coefficients[a]**

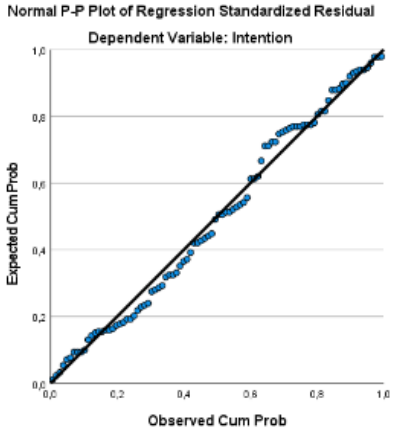
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 2,710 | ,376 | | 7,216 | <,001 | 1,964 | 3,456 |
| | Attitude Towards Act | ,994 | ,295 | ,331 | 3,368 | ,001 | ,408 | 1,580 |

a. Dependent Variable: Intention

## Histogram *perceived behavioural control – intention*



## Scatterplot *perceived behavioural control – intention*




## Regression *perceived behavioural control – intention*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,455[a] | ,207 | ,198 | 1,38450 | ,207 | 23,964 | 1 | 92 | <,001 |

a. Predictors: (Constant), Perceived Behavioural Control
b. Dependent Variable: Intention

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 45,934 | 1 | 45,934 | 23,964 | <,001[b] |
| | Residual | 176,350 | 92 | 1,917 | | |
| | Total | 222,284 | 93 | | | |

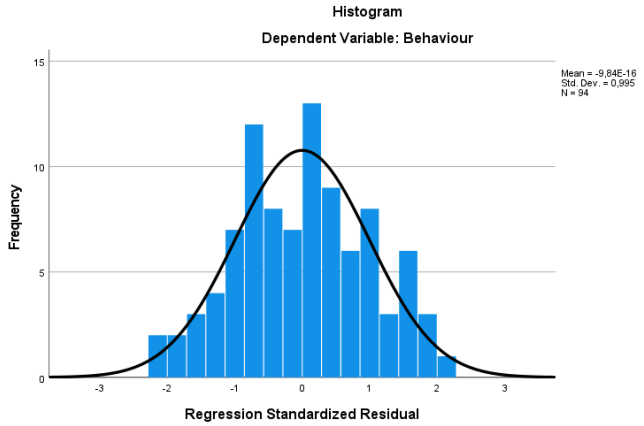
a. Dependent Variable: Intention
b. Predictors: (Constant), Perceived Behavioural Control

**Coefficients[a]**

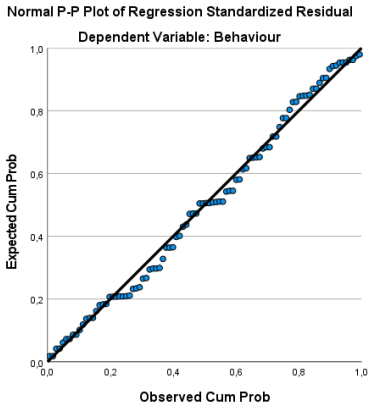
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 1,751 | ,456 | | 3,843 | <,001 | ,846 | 2,655 |
| | Perceived Behavioural Control | 1,502 | ,307 | ,455 | 4,895 | <,001 | ,893 | 2,112 |

a. Dependent Variable: Intention

## Histogram *perceived behavioural control – behaviour*



## Scatterplot *perceived behavioural control – behaviour*




## Regression *perceived behavioural control – behaviour*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,323[a] | ,104 | ,095 | 2,17010 | ,104 | 10,721 | 1 | 92 | ,001 |

a. Predictors: (Constant), Perceived Behavioural Control
b. Dependent Variable: Behaviour

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 50,488 | 1 | 50,488 | 10,721 | ,001[b] |
| | Residual | 433,257 | 92 | 4,709 | | |
| | Total | 483,745 | 93 | | | |

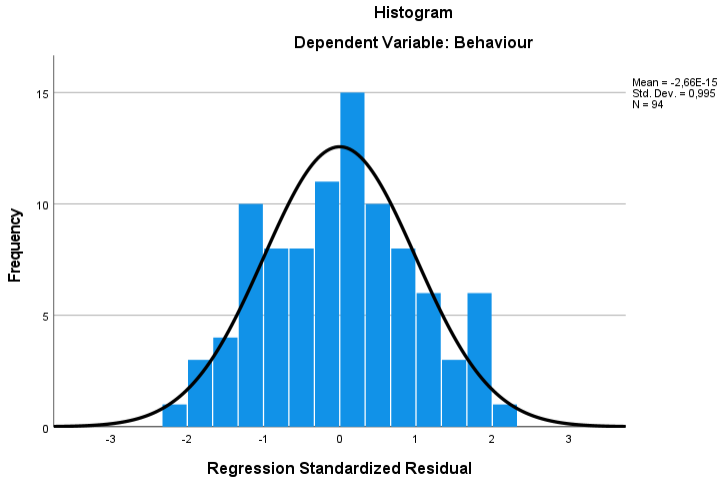
a. Dependent Variable: Behaviour
b. Predictors: (Constant), Perceived Behavioural Control

**Coefficients[a]**

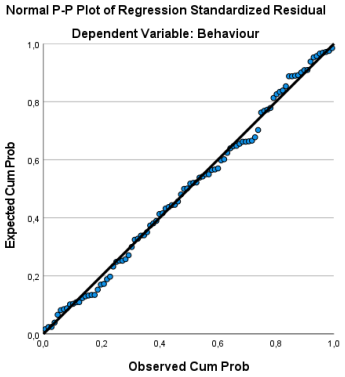
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 2,393 | ,714 | | 3,352 | ,001 | ,975 | 3,811 |
| | Perceived Behavioural Control | 1,575 | ,481 | ,323 | 3,274 | ,001 | ,620 | 2,530 |

a. Dependent Variable: Behaviour

## Histogram *intention – behaviour*



## Scatterplot *intention – behaviour*




## Regression *intention – behaviour*

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,893[a] | ,797 | ,794 | 1,03409 | ,797 | 360,375 | 1 | 92 | <,001 |

a. Predictors: (Constant), Intention

b. Dependent Variable: Behaviour

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 385,365 | 1 | 385,365 | 360,375 | <,001[b] |
| | Residual | 98,380 | 92 | 1,069 | | |
| | Total | 483,745 | 93 | | | |

a. Dependent Variable: Behaviour

b. Predictors: (Constant), Intention

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | -,480 | ,289 | | -1,664 | ,100 | -1,054 | ,093 |
| | Intention | 1,317 | ,069 | ,893 | 18,984 | <,001 | 1,179 | 1,454 |

a. Dependent Variable: Behaviour

## Regression analyses *perceived behavioural control – intention (money)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,185[a] | ,034 | ,024 | 1,52754 | ,034 | 3,263 | 1 | 92 | ,074 |

a. Predictors: (Constant), pbc_moneyr

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 7,613 | 1 | 7,613 | 3,263 | ,074[b] |
| | Residual | 214,672 | 92 | 2,333 | | |
| | Total | 222,284 | 93 | | | |

a. Dependent Variable: Intention

b. Predictors: (Constant), pbc_moneyr

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 2,360 | ,850 | | 2,778 | ,007 | ,673 | 4,048 |
| | pbc_moneyr | ,792 | ,438 | ,185 | 1,806 | ,074 | -,079 | 1,663 |

a. Dependent Variable: Intention

## Regression analyses *perceived behavioural control – intention (time)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,327[a] | ,107 | ,097 | 1,46899 | ,107 | 11,008 | 1 | 92 | ,001 |

a. Predictors: (Constant), pbc_timer

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 23,755 | 1 | 23,755 | 11,008 | ,001[b] |
| | Residual | 198,530 | 92 | 2,158 | | |
| | Total | 222,284 | 93 | | | |

a. Dependent Variable: Intention

b. Predictors: (Constant), pbc_timer

**Coefficients[a]**

| Model | | Unstandardized Coefficients: B | Unstandardized Coefficients: Std. Error | Standardized Coefficients: Beta | t | Sig. | 95,0% Confidence Interval for B: Lower Bound | 95,0% Confidence Interval for B: Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,099 | ,277 | | 11,190 | <,001 | 2,549 | 3,649 |
| | pbc_timer | ,608 | ,183 | ,327 | 3,318 | ,001 | ,244 | ,971 |

a. Dependent Variable: Intention

## Regression analyses *perceived behavioural control – intention (university)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,388[a] | ,151 | ,142 | 1,43236 | ,151 | 16,344 | 1 | 92 | <,001 |

a. Predictors: (Constant), pbc_unir

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 33,533 | 1 | 33,533 | 16,344 | <,001[b] |
| | Residual | 188,751 | 92 | 2,052 | | |
| | Total | 222,284 | 93 | | | |

a. Dependent Variable: Intention

b. Predictors: (Constant), pbc_unir

**Coefficients[a]**

| Model | | Unstandardized Coefficients: B | Unstandardized Coefficients: Std. Error | Standardized Coefficients: Beta | t | Sig. | 95,0% Confidence Interval for B: Lower Bound | 95,0% Confidence Interval for B: Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 2,956 | ,270 | | 10,959 | <,001 | 2,420 | 3,491 |
| | pbc_unir | ,746 | ,184 | ,388 | 4,043 | <,001 | ,379 | 1,112 |

a. Dependent Variable: Intention

## Regression analyses *perceived behavioural control – intention (knowledge)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,263[a] | ,069 | ,059 | 1,49972 | ,069 | 6,830 | 1 | 92 | ,010 |

a. Predictors: (Constant), pbc_knowr

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 15,362 | 1 | 15,362 | 6,830 | ,010[b] |
| | Residual | 206,922 | 92 | 2,249 | | |
| | Total | 222,284 | 93 | | | |

a. Dependent Variable: Intention

b. Predictors: (Constant), pbc_knowr

**Coefficients[a]**

| Model | | Unstandardized Coefficients: B | Unstandardized Coefficients: Std. Error | Standardized Coefficients: Beta | t | Sig. | 95,0% Confidence Interval for B: Lower Bound | 95,0% Confidence Interval for B: Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,200 | ,299 | | 10,715 | <,001 | 2,607 | 3,794 |
| | pbc_knowr | ,536 | ,205 | ,263 | 2,613 | ,010 | ,129 | ,944 |

a. Dependent Variable: Intention

## Regression analyses *perceived behavioural control – behaviour (money)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,116[a] | ,014 | ,003 | 2,27748 | ,014 | 1,262 | 1 | 92 | ,264 |

a. Predictors: (Constant), pbc_moneyr

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 6,547 | 1 | 6,547 | 1,262 | ,264[b] |
| | Residual | 477,197 | 92 | 5,187 | | |
| | Total | 483,745 | 93 | | | |

a. Dependent Variable: Behaviour

b. Predictors: (Constant), pbc_moneyr

**Coefficients[a]**

| Model | | Unstandardized Coefficients: B | Unstandardized Coefficients: Std. Error | Standardized Coefficients: Beta | t | Sig. | 95,0% Confidence Interval for B: Lower Bound | 95,0% Confidence Interval for B: Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,214 | 1,267 | | 2,537 | ,013 | ,698 | 5,730 |
| | pbc_moneyr | ,734 | ,654 | ,116 | 1,124 | ,264 | -,564 | 2,033 |

a. Dependent Variable: Behaviour

## Regression analyses *perceived behavioural control – behaviour (time)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,220[a] | ,049 | ,038 | 2,23668 | ,049 | 4,696 | 1 | 92 | ,033 |

a. Predictors: (Constant), pbc_timer

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 23,492 | 1 | 23,492 | 4,696 | ,033[b] |
| | Residual | 460,253 | 92 | 5,003 | | |
| | Total | 483,745 | 93 | | | |

a. Dependent Variable: Behaviour

b. Predictors: (Constant), pbc_timer

**Coefficients[a]**

| Model | | Unstandardized Coefficients: B | Unstandardized Coefficients: Std. Error | Standardized Coefficients: Beta | t | Sig. | 95,0% Confidence Interval for B: Lower Bound | 95,0% Confidence Interval for B: Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,848 | ,422 | | 9,125 | <,001 | 3,010 | 4,685 |
| | pbc_timer | ,604 | ,279 | ,220 | 2,167 | ,033 | ,050 | 1,158 |

a. Dependent Variable: Behaviour

## Regression analyses *perceived behavioural control – behaviour (university)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics: R Square Change | F Change | df1 | df2 | Sig. F Change |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ,288[a] | ,083 | ,073 | 2,19614 | ,083 | 8,299 | 1 | 92 | ,005 |

a. Predictors: (Constant), pbc_unir

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 40,027 | 1 | 40,027 | 8,299 | ,005[b] |
| | Residual | 443,718 | 92 | 4,823 | | |
| | Total | 483,745 | 93 | | | |

a. Dependent Variable: Behaviour

b. Predictors: (Constant), pbc_unir

**Coefficients[a]**

| Model | | Unstandardized Coefficients: B | Unstandardized Coefficients: Std. Error | Standardized Coefficients: Beta | t | Sig. | 95,0% Confidence Interval for B: Lower Bound | 95,0% Confidence Interval for B: Upper Bound |
|---|---|---|---|---|---|---|---|---|
| 1 | (Constant) | 3,616 | ,414 | | 8,744 | <,001 | 2,795 | 4,437 |
| | pbc_unir | ,815 | ,283 | ,288 | 2,881 | ,005 | ,253 | 1,376 |

a. Dependent Variable: Behaviour

## Regression analyses *perceived behavioural control – behaviour (knowledge)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | ,195[a] | ,038 | ,028 | 2,24911 | ,038 | 3,630 | 1 | 92 | ,060 |

a. Predictors: (Constant), pbc_knowr

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 18,363 | 1 | 18,363 | 3,630 | ,060[b] |
| | Residual | 465,381 | 92 | 5,058 | | |
| | Total | 483,745 | 93 | | | |

a. Dependent Variable: Behaviour

b. Predictors: (Constant), pbc_knowr

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95,0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 3,883 | ,448 | | 8,668 | <,001 | 2,993 | 4,772 |
| | pbc_knowr | ,587 | ,308 | ,195 | 1,905 | ,060 | -,025 | 1,198 |

a. Dependent Variable: Behaviour

## Independent t-test *intention* sub-statements

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| From the dinners you are going to cook in the next 7 days, how much of the diners are going to be vegetarian? | RU | 46 | 5,57 | 2,964 | ,437 |
| | HAN | 48 | 4,98 | 3,077 | ,444 |
| From the dinners you are going to cook in the next 7 days, how much of the diners are going to be vegan? | RU | 46 | 2,09 | 1,617 | ,238 |
| | HAN | 48 | 1,85 | 1,321 | ,191 |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one fair trade product? | RU | 46 | 3,87 | 2,500 | ,369 |
| | HAN | 48 | 4,40 | 2,524 | ,364 |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one organic product? | RU | 46 | 3,93 | 2,294 | ,338 |
| | HAN | 48 | 4,73 | 2,703 | ,390 |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one locally produced product? | RU | 46 | 4,04 | 2,299 | ,339 |
| | HAN | 48 | 3,23 | 2,318 | ,335 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| From the dinners you are going to cook in the next 7 days, how much of the diners are going to be vegetarian? | Equal variances assumed | ,095 | ,759 | ,940 | 92 | ,175 | ,350 | ,586 | ,624 | -,652 | 1,825 |
| | Equal variances not assumed | | | ,941 | 91,997 | ,175 | ,349 | ,586 | ,623 | -,651 | 1,824 |
| From the dinners you are going to cook in the next 7 days, how much of the diners are going to be vegan? | Equal variances assumed | 2,259 | ,136 | ,766 | 92 | ,223 | ,446 | ,233 | ,304 | -,371 | ,836 |
| | Equal variances not assumed | | | ,763 | 86,918 | ,224 | ,448 | ,233 | ,305 | -,374 | ,840 |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one fair trade product? | Equal variances assumed | ,120 | ,730 | -1,015 | 92 | ,156 | ,313 | -,526 | ,518 | -1,556 | ,503 |
| | Equal variances not assumed | | | -1,015 | 91,898 | ,156 | ,313 | -,526 | ,518 | -1,556 | ,503 |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one organic product? | Equal variances assumed | 3,196 | ,077 | -1,533 | 92 | ,064 | ,129 | -,794 | ,518 | -1,824 | ,235 |
| | Equal variances not assumed | | | -1,538 | 90,689 | ,064 | ,127 | -,794 | ,516 | -1,820 | ,231 |
| From the dinners you are going to cook in the next 7 days, how much of the diners will contain at least one locally produced product? | Equal variances assumed | ,274 | ,602 | 1,709 | 92 | ,045 | ,091 | ,814 | ,476 | -,132 | 1,760 |
| | Equal variances not assumed | | | 1,710 | 91,887 | ,045 | ,091 | ,814 | ,476 | -,132 | 1,760 |

## Independent t-test *behaviour* sub-statements

**Group Statistics**

| | At which university do you study? | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| From the diners that you ate in the past 7 days, how much of the diners where vegetarian? | RU | 46 | 6,67 | 3,922 | ,578 |
| | HAN | 48 | 6,21 | 4,141 | ,598 |
| From the diners that you ate in the past 7 days, how much of the diners where vegan? | RU | 46 | 2,37 | 2,245 | ,331 |
| | HAN | 48 | 2,27 | 2,276 | ,329 |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one fair trade product? | RU | 46 | 4,37 | 3,207 | ,473 |
| | HAN | 48 | 4,83 | 3,610 | ,521 |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one organic product? | RU | 46 | 5,17 | 3,101 | ,457 |
| | HAN | 48 | 5,54 | 3,792 | ,547 |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one locally produced product? | RU | 46 | 4,91 | 3,457 | ,510 |
| | HAN | 48 | 3,79 | 3,358 | ,485 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Significance | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | One-Sided p | Two-Sided p | Mean Difference | Std. Error Difference | Lower | Upper |
| From the diners that you ate in the past 7 days, how much of the diners where vegetarian? | Equal variances assumed | ,568 | ,453 | ,559 | 92 | ,289 | ,577 | ,466 | ,833 | -1,188 | 2,119 |
| | Equal variances not assumed | | | ,560 | 91,988 | ,288 | ,577 | ,466 | ,832 | -1,186 | 2,117 |
| From the diners that you ate in the past 7 days, how much of the diners where vegan? | Equal variances assumed | ,014 | ,905 | ,212 | 92 | ,416 | ,833 | ,099 | ,466 | -,828 | 1,025 |
| | Equal variances not assumed | | | ,212 | 91,922 | ,416 | ,833 | ,099 | ,466 | -,827 | 1,025 |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one fair trade product? | Equal variances assumed | 2,891 | ,092 | -,657 | 92 | ,256 | ,513 | -,464 | ,705 | -1,865 | ,937 |
| | Equal variances not assumed | | | -,659 | 91,481 | ,256 | ,511 | -,464 | ,704 | -1,861 | ,934 |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one organic product? | Equal variances assumed | 7,230 | ,009 | -,513 | 92 | ,304 | ,609 | -,368 | ,716 | -1,790 | 1,055 |
| | Equal variances not assumed | | | -,516 | 89,801 | ,304 | ,607 | -,368 | ,713 | -1,785 | 1,049 |
| From the diners that you ate in the past 7 days, how many of the diners contained at least one locally produced product? | Equal variances assumed | ,436 | ,510 | 1,595 | 92 | ,057 | ,114 | 1,121 | ,703 | -,275 | 2,517 |
| | Equal variances not assumed | | | 1,594 | 91,526 | ,057 | ,114 | 1,121 | ,703 | -,276 | 2,518 |