

State regulated coffeeshop chain in the Netherlands

Consumer behaviour analysis of students in Twente



(Burton, 2016)

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Abstract

The current Dutch government is taking steps to fully regulate the recreational use of cannabis. Firstly, a pilot will be conducted with a maximum amount of ten municipalities. After four years, the government will review the pilot and its effects (Parliamentary Papers II, 2017/18, 34 997, p. 2). The purpose of this study is to try to determine to what extent the experiment of legalisation will have effect on consumers of cannabis and if legalisation will evoke new users, specifically under students. The main research question is formulated as follows: *“To what extent will legalising cannabis affect consumer behaviour of current and potential users among students in Twente?”*

The decision of users is conceptualised by the routine activity theory. The decision to select either a coffeeshop or the black market is characterised by their personal characteristics, accessibility and availability of cannabis and legal risks. The decision of non-users to use cannabis is conceptualised by the costs benefit-analysis. Benefits are characterised as experience and socialisation, costs as effort and price. In addition, costs is influenced by informal control of their social environment.

This quantitative study uses an online survey to gather self-report data. Student have been approached on the University of Twente campus and in front of the Saxion University of Applied sciences in Enschede. A business card was handed out with a QR-code. The non-probability sampling provides 63 respondents who are identified as 43 non-users and 20 users of cannabis.

Students mainly motivate their cannabis use by pleasure and increasing fun during social gatherings. Students are generally familiar with the location of a coffeeshop and thus where to purchase cannabis. Yet, the presence of coffeeshops does not persuade students into purchasing cannabis. Additionally, 60% of the users has ever purchased cannabis different from a coffeeshop. Their main motivation is the price of cannabis.

Users have certain expectations of state regulated cannabis as it is currently already preferred over black market cannabis. Price, quality and availability of cannabis are the most important factors that weigh on the selection of retailer. Moreover, some users withhold from black market cannabis if surveillance and penalties are increased.

Legalisation will not evoke immense new users. Cannabis is already accessible and available and their decision to not use cannabis goes beyond the matter of accessibility, price and socialisation.

In conclusion, legalisation will not extremely change behaviour under users and non-users. However, the decision of users to choose between state regulated cannabis and black market cannabis could be influenced by different characteristics of policies. The state regulated cannabis could be made more attractive than black market cannabis by the accessibility of coffeeshops, the price/quality ratio of cannabis and the availability of different products while purchasing black market cannabis could be made less appealing by increasing penalties and surveillance.

Pre-face

Before you lies the thesis “State regulated coffeeshop chain in the Netherlands: Consumer behaviour analysis of students in Twente.” A survey was conducted under students in Twente on how their behaviour would change after the legalisation of cannabis in the Netherlands. The debate on legalisation of cannabis is very topical and experts and interested people argue on the matter. The Dutch government just published the ten municipalities who will participate in the experiment of the state regulated coffeeshop chain. The outcome of the experiment will determine if legalisation will be implemented nationwide.

This thesis is submitted in fulfilment for the degree of Master of Science in Public Administration on the University of Twente in Enschede. The thesis was written from May 2019 until October 2019. This thesis gives insights on the expectations of cannabis users from state regulated cannabis and explored how non-users could react to legalisation.

I would like to thank my supervisors Dr. Guus Meershoek and Dr. Pieter-Jan Klok for their expertise and excellent guidance. This thesis would not be the same without your feedback. I would also like to thank particular students of the University of Twente and Saxion University of Applied Sciences who voluntary participated and helped an unknown student to fulfil his degree.

I hope you enjoy your reading,

Berkan Özdemir

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Table of contents

Abstract	2
Pre-face.....	4
1. Introduction.....	7
1.1 Background	7
1.2 Current developments.....	8
1.3 Purpose and problem definition.....	8
1.4 Scope	9
1.5 Contribution to science and society	10
1.6 Reader's guide.....	11
2 Background literature	12
2.1 History of drug policy in the Netherlands	12
2.2 Societal influences.....	15
2.3 Coffeeshop policies in Twente.....	16
3 Theory.....	17
3.1 Concepts of theories.....	17
3.2 Variables of concepts	20
3.3 Conceptualisation.....	29
4 Methodology	32
4.1 Research design	32
4.2 Data collection	33
4.3 Data analysis.....	34
4.4 Operationalisation	35
4.5 Reliability and validity.....	36

5 Results 37

5.1 *Current cannabis use under students.....37*

5.2 *The influence of future legalisation policy.....44*

5.3 *Legalisation and the effect on non-users.....50*

6 Conclusion..... 57

7 Discussion 59

8 References 61

9 Appendix..... 64

9.1 *Operationalisation tables.....64*

9.2 *Questionnaire.....74*

9.3 *Statistical tables90*

1. Introduction

1.1 Background

In 1955 in the Netherlands cannabis was put on the list of illegal narcotics next to cocaine and heroin. Initially, law enforcement agencies did not focus on cannabis (marihuana and hashish). But after youth and students started increasing their use of cannabis, repression was increased by authorities (Spapens, Müller & van de Bunt, 2014, p. 192). It became clear that the punishments were not in accordance to the health risks of cannabis (de Kort, 1994, p. 419; Monshouwer, van Laar & Vollebergh, 2011, p. 149). A legal separation between soft drugs and hard drugs was made. The main purpose was to prevent people from buying drugs from dealers who also sold hard drugs like cocaine and heroin (Spapens et al., 2014, p. 192). This refers to the idea that soft drugs users will likely use cannabis as a lead to other drugs (Uitermark, 2004, p. 528). If the police apprehends an individual with less than 5-gram cannabis on them, the drugs will be seized but the individual will not be prosecuted. The cannabis is sold in coffeeshops and its owners have to comply with strict conditions to possess and keep their license (MacCoun, 2011, p. 1900). Sale to minors is prohibited, cannabis cannot be advertised, no nuisance is allowed in their vicinity and the owners should have no criminal record (MacCoun, 2011, p. 1900).

A consequence of the toleration policy on the sale of cannabis was the increase of cannabis trafficking into the Netherlands by criminals who were also involved in prostitution, gambling and armed robberies. A shift occurred during the 1990's. The cannabis was then mostly homegrown in the Netherlands (Spapens et al., 2014, p. 195).

This has led to the current discussion in the Netherlands regarding the toleration policy. Firstly, public prosecutors and the police spend a lot of manpower on the investigation and prosecution of cannabis related crimes such as trafficking, money laundering, threats and violence. Secondly, the local governments deal with intimidation by criminal organisations. Death threats at the mayors and other public officials are not an exception (Spapens et al., 2015, p. 201). Moreover, citizens are approached by criminals to use their attic or shed for cannabis production. Inhouse cannabis cultivation leads to increased fire and structure risks. It

does not only endanger the residents themselves, but also neighbours (Joustra, Muller, & van Asselt, 2018, p. 28).

Furthermore, after the Schengen-agreement, a lot of foreigners are able to travel and purchase and consume cannabis (Spapens, 2011, p. 12). The costumers of Belgium, France and Germany are accused of littering and causing parking problem. In addition, some people from these countries want to buy more than five grams or even hard drugs which are sold in drug houses in the Netherlands (Spapens, 2011, p. 8).

1.2 Current developments

The current Dutch government is taking steps to fully regulate the recreational use of cannabis. Legalisation of the market will decrease the workload for the police, judicial authorities and the prison system and will decrease the criminals' market share (Spapens et al., 2014, p. 191). Legalisation, standardisation, and taxation pilot programs are proposed. Firstly, a pilot will be conducted with a maximum amount of ten municipalities. All coffeeshops in these municipalities will have to deal with a closed coffeeshop chain. Production, distribution and the sale of cannabis will be regulated by the authorities. After four years, the government will review the pilot and its effects (Parliamentary Papers II, 2017/18, 34 997, p. 2). If the pilot is successful, the method could be implemented nationwide. If the pilot does not show the effects that were intended, the experimenting municipalities will go back to the old situation.

1.3 Purpose and problem definition

The purpose of this study is to try to determine to what extent the experiment of legalisation will have effect on consumers of cannabis, specifically students. The Dutch government assumes that cannabis users will purchase their cannabis from coffeeshops when the complete production and sale chain is legalised and regulated by the government. The decisions of cannabis consumers are studied in order to determine which factors influence decisions.

Moreover, non-users are studied to determine how this group will react to legalisation. Their decision will be either purchase cannabis or to refrain from it. Too tempting conditions

could increase use and too little tempting conditions could prevent users from purchasing cannabis at coffeeshops.

The purpose is to study which characteristics users and non-users rely on to make their decisions in order to buy or not buy cannabis, from a coffeeshop or the black market. These characteristics are put together in an advice to the government. These recommendations could then lead to a successful policy implementation where cannabis users predominantly purchase cannabis from state regulated cannabis and non-users are not tempted by legalisation and the governments new stance on cannabis to purchase then legal cannabis.

The main research question is:

“To what extent will legalising cannabis affect consumer behaviour of current and potential users among students in Twente?”

1.4 Scope

It is not clear yet which municipalities are able to participate in the experiment at this moment. According to the letter of the ministers Bruins & Grapperhaus (2019) sent to parliament the committee Knottnerus will consult interested municipalities and will then advice the ministers of Medical Care and Sports and of Justice and Security which municipalities are eligible to participate. In order to perform a realistic and feasible analysis the study will not be conducted nationwide. The scope of this study is focussed on the region of Twente.

The units of analysis are students at least 18 years old as they are only eligible to purchase cannabis in coffeeshops. Individuals in the category from 18 to 29 year old use the most cannabis in The Netherlands and higher educated people have three times more experience in ever and last year use of cannabis than lower educated people (van Laar et al., 2019, p. 97).

Students, according to this study, are individuals who attend either an university or university of applied sciences. Students are studied as the toleration policy was caused by problems under students, their drugs use and to prevent them from having access to the hard drugs (Spapens et al., 2014, p. 192).

The process of cannabis consumer behaviour is split in two decisions. First, the decision whether a student purchases cannabis or refrains from it. Secondly, the decision of a student where to purchase cannabis. Either in coffeeshops or on the black market.

To answer the research question within the study's scope, three sub-questions are formulated:

Sub-questions:

1. How is the current consumer behaviour of cannabis characterised and motivated under students in Twente?
2. Which characteristics of the legalisation policy will stimulate students to purchase predominantly state regulated cannabis in coffeeshops?
3. To what extent will legalisation of cannabis evoke non-user students to purchase cannabis in coffeeshops?

1.5 Contribution to science and society

This study will analyse the effects of legalisation of cannabis in the Netherlands from the perspective of users and potential users. The Dutch government will run an experiment with a state regulated cannabis chain. The assumption made by the government is that cannabis users are willing to buy state regulated cannabis and it would impact the black market. There are limited scientific studies on the effects of legalisation as cannabis legalisation is a rather new phenomenon and most studies take place in North America.

The current situation is problematic as coffeeshops owners have to purchase their products on the black market which is controlled by criminals. The local governments in the Southern provinces Limburg and Noord-Brabant are currently dealing with intimidation by criminal organisations. An example are the death threats at the mayor of Helmond when he issued a second coffeeshop license (Spapens et al.2015, p. 201). This study will use self-reporting by cannabis users on how they will respond to legalisation. Policy makers, coffeeshop owners, and the government will have an indication how a future scenario could look like.

1.6 Reader's guide

The first part of the paper gave an introduction on the subject of the study. It will continue with chapter 2 where the history and background of the Dutch drug policy are explained, the societal factors behind it and the current drug policy in Twente. Chapter 3 contains the theoretical framework and literature. This chapter will explain different theories and additional literature that will be used to indicate different variables to set out a survey. Chapter 4 will explain the methodology of the study. The operationalisation in the appendix offers key concepts and how the outcomes of the survey will be measured. Chapter 5 discusses the results of the study using the data from the questionnaire and literature. Chapter 6 gives an answer to the research questions and summarises the main key points of the study. Finally, in chapter 7, the studies outcomes and validity are discussed.

2 Background literature

2.1 History of drug policy in the Netherlands

In the second part of the 1960's the use of cannabis extremely increased and was severely repressed by law enforcement (de Kort, 1994, p. 418). Repression was increased and youth and students in major cities were sentenced to jail up to a year (de Kort, 1994, p. 418; Spapens et al.2014, p. 192). This became the subject of debate as the students' future careers were jeopardised (Spapens et al.2014, p. 192). In addition, the press mentioned that the drugs were not as dangerous as perceived and even a form of consumer education was available via weekly radio programs (de Kort, 1994, p. 419).

Penalties for soft (drugs posing fewer risks) and hard drugs (drugs possessing an unacceptable risk to public health) were not in accordance with their health risks (de Kort, 1994, p. 419; Monshouwer et al., 2011, p. 149). In 1971, the independent Baan committee advised the government to decriminalise the use and possession of small amount of cannabis (de Kort, 1994, p. 419). The Board of Attorneys General issued a directive for a maximum amount of 30-gram cannabis per sale (Spapens et al., 2014, p. 193). Fully legalising cannabis is not permitted by the Single Convention on Narcotic Drugs of 1961 of the United Nations. Nevertheless, the Convention allows states to modify the penalties, which resulted in reducing the offence to a misdemeanour in the Netherlands (de Kort, 1994, p. 426).

Law enforcements authorities were required to prioritise hard drugs as heroin started to spread from 1972. The authorities aimed to reduce harm and to separate the soft and hard drugs market in order to prevent cannabis users to contact criminals who also sold hard drugs (Spapens et al., 2014, p. 195; Monshouwer et al., 2011, p. 148). This referred to idea that soft drugs users will likely use cannabis as a lead to other drugs, the stepping-stone theory (Uitermark, 2004, p. 528). The legal separation between soft and hard drugs was already common practice before the amendment of the Opium Act in 1976 (de Kort, 1994, p. 419). At the same time, the theory was highly debated in the Ministry of Public Health where most officials preferred to continue with the heavier enforcement of the Opium Act. Meanwhile, the Justice Ministry was under severe public pressure from the media. It became clear that

punishing offenders would do more harm than the use of drugs. In addition, the Public Health Ministry failed to prove that cannabis is more hazardous than alcohol or tobacco (de Kort, 1994, p. 422-423).

Furthermore, the ministry of Culture, Recreation and Welfare was required to take a position in the debate as the sale of soft drugs in youth centres and certain venues in major cities was already taking place. Further alienation of the youth was to be averted and this practice would be more observable than drug dealing on the street (de Kort, 1994, p. 423).

Finally, after the revision of the Act, to possess and deal cannabis would still remain a felony but the Public Prosecutions Department would refrain from criminal proceedings on bases from the public interest. A policy of toleration in practice was established (de Kort, 1994, p. 419-420). According to Van Ooyen-Houben & Kleemans (2015, p. 167), the policy goal in 1976 was to prevent and reduce societal and individual risks caused by the use of drugs.

The first two coffeeshops emerged in Amsterdam and Utrecht. At first, the government frowned upon the opening of the actual shops where cannabis is able to be purchased. Later, coffeeshops positively looked upon as the shops served the major part of soft drug users (Spapens et al., 2014, p. 194). The Attorneys General issued a new directive to refrain coffeeshops from investigation. The coffeeshops have to comply with the AHOJ-G rules (MacCoun, 2011, p. 1990). Coffeeshops should abstain from advertising, sell hard drugs, sell to minors, limit transaction quantities, and prevent disturbance (Spapens et al., 2014, p. 194).

In the early nineties, negative consequences came forward of the progressive stance on cannabis. The number of coffee shops increased, illegal growing emerged, and drug tourism started to take size (Spapens et al., 2014, p. 194). In 1995, the Dutch government chose to continue with the policy principles of separating drugs and harm reduction. Still, a number of restrictions was imposed (Spapens et al., 2014, p. 195). The maximum quantity was reduced from 30 gram per transaction to 5 gram and in 1996 the minimum age was raised from 16 to 18 years old (MacCoun, 2011, p. 1990). Later, in 1999 the Damocles act entitled the local authorities with more power on local coffeeshop policy. This allowed the mayor to close coffeeshops if owners would violate regulations (van Ooyen-Houben & Kleemans, 2015, p. 167).

In 2003 the Act BIBOB allowed full screening of applicants of coffeeshop permits. The number of coffee shops steadily declined from 846 in 1999 to 617 in 2012 (Spapens et al., 2014, p. 196).

Policy on cannabis has led to the emerge of illegal cannabis production in the Netherlands. Organised crime saw potential in the market and their market exceeds national borders. In 2007 the Dutch government amended their drug policy goals to control of drug related crime and the nuisance of drugs (van Ooyen-Houben & Kleemans, 2015, p. 167). A substantial increase of cannabis and organised crime related investigations appeared in 2008 (van Ooyen-Houben & Kleemans, 2015, p. 169). In 2011, the minister of Justice and Security wrote to parliament that the open-door policy of coffeeshops needs to be stopped as the drug trafficking has risen to an uncontrollable size (Bielemen, Mennes, & Sijstra, 2017, p. 3). Coffeeshops should only serve a local market and tourists should not be attracted.

Present day, organised crime impacts communities with nuisance of illegal growing in neighbourhoods, threats on political representatives, environmental pollution, and money laundering. The demand for a fully legalised coffee shop chain is currently studied by Dutch government and parliament in an attempt to dissolve organised crime related to cannabis. The experiment will be conducted in a maximum of ten municipalities. The committee Knottnerus will advise the government which municipalities should be selected (Government of the Netherlands, 2019). The mayors and their municipalities will still have the power to issue and retract permits. Coffeeshops in the particular municipalities are only permitted to purchase from designated growers (Government of the Netherlands, 2019). A noticeable difference between the current situation and the experiment is that municipalities in the border region are not allowed to sale to foreigners (Government of the Netherlands, 2019).

2.2 Societal influences

An important aspect of the development towards the toleration policy was the culture behind it around Dutch politics and society. From the mid-19th century, Protestants, Catholics, and secular liberals were represented in proportion to the population, so called pillars. In politics, it prevented a dominant position for any of the groups for a longer period of time and led to frustrations when policies were imposed (Uitermark, 2004, p. 513). In the 1920's, sub-groups were pushed into negotiations on the pacification of the school issue by increased labour radicalised representatives. Parties started to support other plans in return to receive support for their important plans (Uitermark, 2004, p. 513). Uitermark (2004, p. 513) claims that this was a major modernisation of legal and political structure in the Netherlands. The religious groups were financed by the central authorities yet they were entitled to manage themselves (Uitermark, 2004, p. 513). High level of tolerance and understanding on a national level provide the background to the change in drug policy in the Netherlands (Uitermark, 2004, p. 513).

In the 1960's, secularisation, opportunities for communication and growing prosperity were major factors that led to the collapse of the pillars (de Kort, 1994, p. 420). Groups excluded from the pillars now had the opportunity to influence political, cultural, and social life with their non-traditional values for example on abortion, contraception and cannabis (de Kort, 1994, p. 420-421). The government failed to respond on the issues of the rapidly changing society. The hazards and effects of cannabis use were unknown and the government was unable to choose a position on the cannabis debate. The uncertainty introduced alternative viewpoints in the debate which caused a more progressive stance on cannabis in Dutch society (de Kort, 1994, p. 425).

2.3 Coffeeshop policies in Twente

This paragraph will describe the current situation of Twente and the municipalities' policies on cannabis sale in coffeeshops. The region of Twente consists of fourteen municipalities. Together, the municipalities created a regional format for the Damocles policy which derives from the earlier mentioned Damocles law where the local governments were more entitled to act on local drug policy (van Ooyen-Houben & Kleemans, 2015, p. 167). An integral approach on drug issues is initiated to prevent a waterbed effect and different from the law, mayors are entitled to use administrative law to close coffeeshops. Examples are the temporarily closure of coffeeshops if cannabis is sold to minors or the transaction amount exceeds five gram. If owners transgress the same rules again within five years, the coffeeshop will be closed definitively (Schelberg, 2013).

Almelo has two coffeeshops, Enschede has nine, and three are to be found in Hengelo (Schelberg, 2013). These numbers are also the maximum of coffeeshops in the municipalities. Before a new coffeeshop permit is issued, another one has to be withdrawn. Different from the three biggest municipalities, but with dialogue, the other eleven municipalities have zero coffeeshops.

The D66 party from the municipality of Losser had the intention to participate in the experiment closed coffeeshop chain. However, Losser has no coffeeshop. The party brought the discussion to the regional level to discuss the interest for the experiment with other municipalities including the ones that actually have coffeeshops (van Essen & Heegen, 2017). Initially, the municipalities in Twente were interested in participating, but after requirements were published their interest faded away as the experiment limited the sale to tourist. Tourist would purchase cannabis of the street which would lead to more nuisance in the region.

3 Theory

This chapter will describe two theories and their concepts at the beginning which were attained from scientific sources. Using these theories, different components will be used in the second part to form variables.

3.1 Concepts of theories

This first paragraph will describe two main theories and their concepts. The two theories are to be applied to this study. The identified concepts will help indicate the different variables to measure the units. The first theory concerns the decision of users to either purchase cannabis in a coffeeshop or the black market. The second theory is involved with the decision of non-users to purchase cannabis or not after legalisation.

3.1.1 Routine activity theory

The routine activity theory is applied in this study to explain the choices cannabis users make to purchase from legal or illegal retailers. The consideration process of users can then be influenced to make them predominantly choose legal retailers. Their routine is to purchase cannabis in either coffeeshops or the black market.

The routine activity theory concentrates on the circumstances, rather than specifically looking at the characteristics of offenders, in which acts are carried out (Cohen & Felson, 1979, p. 588). The theory studies the influence of criminal opportunities on crime rates. If there are more criminal opportunities, more offenders will emerge (van Dijk, Junger, Sagel-Grande, 2011, p. 183). The violations directly involve physical contact between at least one offender and at least one object that the offender attempts to take (Cohen & Felson, 1979, p. 589). Three elements are identified: motivated offenders, suitable targets and the absence of capable guardians. If one of the elements is not present, it is sufficient to prevent a criminal act (Cohen & Felson, 1979, p. 589).

Differently from the theory, in this study, the motivated offender does not take something without permission. They purchase the cannabis so the initial cannabis user is the offender as this study does not focus on the illegal retailer. The offender is seen as the

purchaser of cannabis. Additionally, the suitable target is not a victim as in a person or an object that is taken from somebody. The opportunity to conduct a transaction itself is a suitable target for the offender. Guardianship is not limited to the police and their surveillance. Private institutions and the judiciary can restrain the probability of purchasing illegal cannabis. In addition, a social environment can also be characterised as a guardian. Strong ties to families and friends could influence the decision.

This theory solely focuses on the short-term situation where decisions are made whereas different characteristics are also influence the decision such as price, product quality and availability. If the offer of legal cannabis is not attractive enough, users could consider illegal retailers. Nevertheless, the theory gives a base to analyse the decisions of individual users to pick between retailers from the perspective of criminology.

The three identified factors offender, opportunity and guardian will be explained in this chapter with additional variables. Firstly, the offender who is willing to purchase black market cannabis. To what extent does his/her motivation influence his/her decision. Secondly, the opportunity for a transaction which is not limited to the transaction itself but also consists of the products characteristics. Finally, guardians are analysed and what their effects are on selecting the retailer by users. This could be surveillance by state institutions like the police but also the social environment.

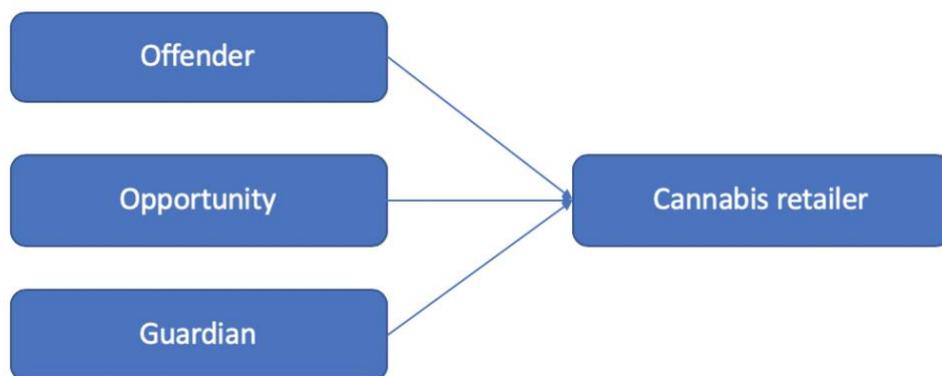


Figure 1 Concept of routine activity theory

3.1.2 Rational choice theory

The rational choice theory is a theory from an economic perspective. The theory assumes that every human behaviour and their choices is structured by the costs and benefits and not on basic motivations (Mehlkop & Graeff, 2010, p. 190). Individuals try to maximise their advantage through acts while avoiding negative consequences. This theory states that criminal behaviour does not differ from logical behaviour (Mehlkop & Graeff, 2010, p. 190).

An individual will only act if they subjectively expect their costs are lower and benefits are larger. Next to costs and benefits is the probability of getting caught (Mehlkop & Graeff, 2010, p. 191). The penalty weighs in on the decision of an individual to act or not. It is an additional cost. From the rational choice perspective, if penalties would be increased the likelihood of the acts would decrease (van Dijk, Junger, Sagel-Grande, 2011, p. 182).

From a sociological perspective on the theory, the perception of the individual of costs, benefits and penalty is very subjective. Social classes of individuals influence the perception of benefits and a common criminal and a law-abiding citizen will probably not perceive the same penalty similarly. Moreover, increasing penalties does not lead to a decrease of the likelihood of crimes (Mehlkop & Graeff, 2010, p. 193). Individuals and in particular criminals are subject to limited rationality (van Dijk et al., 2011, p. 183). Furthermore, the economic theory does not refer sociological explanations of criminal behaviour such as socialisation or personal characteristics like lack of self-control (Mehlkop & Graeff, 2010, p. 190). Consequently, the decision made by individuals is determined by subjective observations of costs, benefits and penalties.

Nevertheless, this theory can be useful for this study as it gives a specific framework on the aspect of decision making of individuals. The rational choice theory will be applied on the decisions of non-users to purchase cannabis after legalisation. The variables costs and benefits can be put together with a potential penalty effecting that decision.

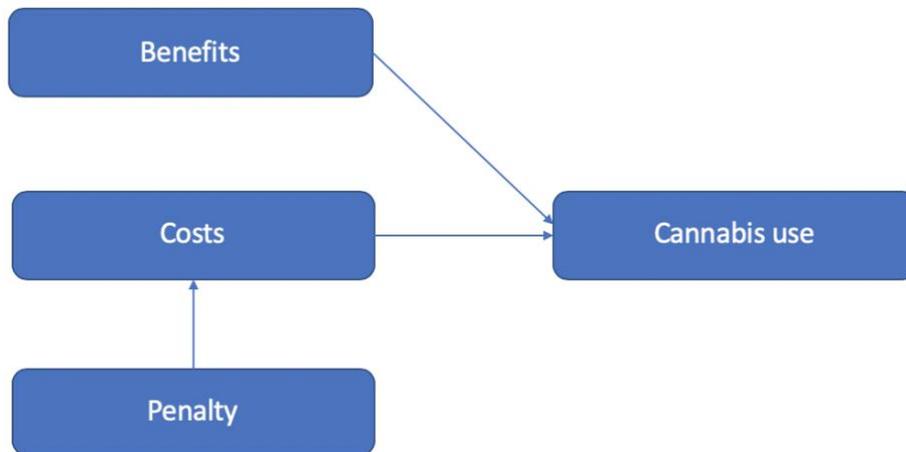


Figure 2 Concept of rational choice theory

3.2 Variables of concepts

This paragraph will add variables to the different concepts of the theories from paragraph 3.1. The findings of different scientific articles are explained and are to be put under different components.

3.2.1 Socialisation and motivation of offenders

Substance use of peers has an effect on the subsequent substance use (Andrews, Tildesley, Hops, & Li, 2002, p. 355). Socialisation by peers is a risk factor for young adults especially when the relationship is of quality. The behaviour of the other individual will be more valued (Andrews et al., 2002, p. 350). More specifically, a concurrent relation was found between marijuana use and opposite-gender friends (Andrews et al., 2002, p. 355). The authors suggest that these findings could be subject to the selection and maintenance of friends who have similar marijuana use (Andrews et al., 2002, p. 355). The socialisation can be put under the benefit with non-users as when behaviour is copied, the relationship will be more valued.

The motives for young adults to use cannabis differ. In 1998 Simons et al. adapted and extended the Drinking Motives Measure to a Marijuana Motive Measure in order to measure students' motivations for marijuana use. Both the alcohol and marijuana use of the students is measured in the study to validate the model for marijuana use. Simons et al. (1998, p. 265) argues that motives for alcohol and marijuana use overlap each other such as tension reduction

and mood enhancement. Five measurements have been identified. Enhancement relates to improving pleasure, conformity links to social conformity, expansion to experimenting, coping refers to personal troubles and social to social gatherings with friends (Simons et al., 1998, p. 269). These five measurements with the variable motivation are put under the offender concept with users. In addition, socialisation is identified as a variable that has influence on the use of cannabis and is put under benefits for non-users because the conformity of behaviour will lead to better valued relationships.

3.2.1.1 Young adults' motivations

Consumption of cannabis peaks under young adults. Around 50% of the population in the Netherlands from 18 until 29 years old has experience with cannabis (van Laar et al., 2019, p. 97; Simons, Correia, Carey & Borsari, 1998, p. 265). More than 20% on average of 18 until 29 year olds have used cannabis in the past year in the Netherlands (van Laar et al., 2019, p. 97). Nevertheless, most people who ever tried cannabis stopped using in a later phase in life (van Laar et al., 2019, p. 96). Adults in their thirties and later do not become more dependent of marijuana.

The Dutch population does use less cannabis than other European countries while the Dutch have easier access to cannabis. On average, 6.8% of the 15-64 year olds in Europe have recently used cannabis compared to 5.4% of 15-64 year olds in the Netherlands. When the age category is slimmed down to 15-34 years old the number increases to 12.5% in Europe and 9.5% in the Netherlands (Monshouwer et al., 2011, p. 152). The 15-24 years old use the most cannabis. The percentage is the highest in Spain around 24% while in the Netherlands the percentage is around 11% (Monshouwer et al., 2011, p. 152).

International numbers show that under adults' cannabis use is not higher than other European countries. Nevertheless, the use under adolescents is higher and the average age is lower in comparison to other European countries (Monshouwer et al., 2011, p. 152).

3.2.2 Coffeeshop presence and density

As mentioned before, not every municipality has coffeeshops. The Wouters, Benschop & Korf (2010) study explains why some municipalities have and some do not have coffeeshop. In 1999, local governments received power to control the coffeeshops in their municipality and are not only responsible for initiating new permits but also have the power to set a maximum number of permits (van Ooyen-Houben & Kleemans, 2015, p. 167; Wouters et al., 2009, p. 316). Initiating coffeeshop permits could prevent nuisance of the black market and enhance public safety (Wouters et al., 2009, p. 316).

From an economic perspective, the demand determines whether a coffeeshop would be profitable. A small population will not have a sufficient market and bigger cities do have more cannabis users both absolutely and relatively (Wouters, et al., 2009, p. 316). In 2007 no municipality with less than 15.000 inhabitants had a coffeeshop and all municipalities with more than 100.000 inhabitants had at least one coffeeshop. Coffeeshops density increases with population size but is not linearly (Wouters, et al., 2009, p. 317).

The local governments' political preferences also have influence on the coffeeshop policy. Conservatives aldermen and majors have a different perspective on drugs policy than progressive aldermen and majors. Progressive seats in a local council are an important predictor (Wouters, et al., 2009, p. 319). In summary, political parties predict if a municipality has coffeeshops or not and the population of the municipality predicts the number of coffeeshops (Wouters, et al., 2009, p. 319). The authors do not seem to include border municipalities as they have a bigger potential market as drug tourists are eligible to purchase cannabis.

The buyers in municipalities without coffeeshops bought less cannabis in coffeeshops than users who did have a coffeeshop in their municipality (Wouters & Korf, 2009, p. 638). The presence of coffeeshops has influence on the decision of individuals to purchase cannabis at coffeeshops. Coffeeshops density can also be viewed as coffeeshop accessibility as in convenience like opening hours and distance (Wouters & Korf, 2009, p. 645). If no coffeeshops are present within a close proximity of an individual, they would less tempted to purchase cannabis in coffeeshops. The opposite shows that buyers are more likely to purchase cannabis

in coffeeshops in a municipality with more coffeeshops. The accessibility variable is put under the opportunity concept under users. The accessibility of coffeeshops influences whether users purchase cannabis in coffeeshops. For non-users the costs of purchasing cannabis is their time investment to go to the coffeeshop. Presence of coffeeshops could have effect on the decision to try cannabis.

3.2.3 Retailer and hard drugs

Coffeeshops are not evenly spread throughout the Netherlands. One out of three coffeeshop is found in Amsterdam while most municipalities have no coffeeshop at all (Wouters & Korf, 2009, p. 628). Wouters & Korf selected seven municipalities on coffeeshop density, population size and geographical spread.

The buyers in municipalities without coffeeshops bought less of their cannabis in coffeeshops than users who did have a coffeeshop in their municipality and conversely, buyers are more likely to purchase cannabis in coffeeshops in a municipality with more coffeeshops. (Wouters & Korf, 2009, p. 638).

In addition, buyers under the age of 18, males and buyers in municipalities who have a lower coffeeshop density are more likely to purchase cannabis outside a coffeeshop (Wouters & Korf, 2009, p. 638). Adolescents are restricted from coffeeshops. Adolescents purchase cannabis of dealers or receive it from friends (Wouters & Korf, 2009, p. 633). Coffeeshops density can also be dependent on coffeeshop opening hours and accessibility (Wouters & Korf, 2009, p. 645).

Even though cannabis purchasing is decriminalised, the black market remains a source for cannabis in the Netherlands. Reinarmann (2007, p. 31) sampled cannabis users in Amsterdam and found that around 25% of users received cannabis from a directly or indirectly known person. The initial idea of legalising cannabis sale was the separation of the soft and hard drugs market (Spapens et al., 2014, p. 195; Monshouwer et al., 2011, p. 148). Reinarmann (2009, p. 31) indicates that 15% of individuals who received cannabis from others, were able to get hold of hard drugs. It is much lower than in San Francisco where 51% of the respondents were able to get hold of hard drugs via their cannabis dealer (Reinarmann, 2009, p. 31). In summary, cannabis

use is depended on whether a municipality has a coffeeshop. Therefore, the retailer variable is put under accessibility. The retailer can be distinguished as a coffeeshop and the black market before legalisation and a state regulated coffeeshop and the black market after legalisation.

3.2.4 Effect of legalisation on drug use

The coffeeshops have been implemented in Dutch society and people are familiar with what coffeeshops have to offer. Nevertheless, it remains interesting to study to what extent the legalisation will affect non-users. The government's stance on cannabis will remove the social barrier and non-users may be tempted to try cannabis if they have not before.

MacCoun created a model in 1993 for drug prohibition and the behavioural effects on these laws. He identified six mechanisms that effect the use of drugs before legalisation. After legalisation two mechanism remain in place.

When legalisation starts, the availability of cannabis increases in terms of price, accessibility, and cultural aspect. As the Netherlands already has coffeeshops, the stigma may not have a significant impact on non-users (Bretteville-Jensen, 2006, p. 562). If the government would make the coffeeshop cannabis too expensive it would undermine the policy (Bretteville-Jensen, 2006, p. 561). Too low prices will attract too many people. Availability and price are combined in the model as both influence each other under the opportunity concept for users and non-users.

The model before legalisation contains four other mechanisms. The cultural aspect explain behaviour by individuals who take the shame, embarrassment, or harm into consideration as informal social costs (MacCoun, 1993, p. 505). This stigmatisation by social groups forms another factor for the decrease of drug use before legalisation.

In addition, no legal punishment is in place after legalisation. Removing legal punishment would increase drug use. Especially people who are severely obeying the rules, are more likely to use drugs after legalisation (MacCoun, 1993, p. 503-504).

Moreover, the forbidden fruit scenario is that cannabis is illegal and that especially young people see cannabis as more tempting. This decreases the use after legalisation (MacCoun, 1993, p. 504).

And finally, the symbolic threshold mechanism and drug use are negatively related (MacCoun, 1993, p. 504). Symbolic threshold is the threshold for individuals who behave on approval-seeking conformity. It emphasises maintaining social order.

Informal self-and social control are perhaps the major role in regulating drugs. These kinds of control are likely to prevent individuals from using drugs. The control comes from their direct environment such as family and directly from society. Figure 3 explains the mechanisms of legal influence on drug use after legalisation or decriminalisation.

Availability is put under the opportunity for users with price influencing the availability. Moreover, the price is also selected for non-users under costs as individuals who do not use will see spending money on cannabis as a cost. The informal social control is put under the perceived penalty concept. After legalisation the legal risks are not present and thus the informal factors remain and weigh in on the decisions of non-users to purchase cannabis.

The concept of fear of legal risks is put under guardianship for the users. That fear impact the use of drugs and their decision to purchase cannabis from the black market.

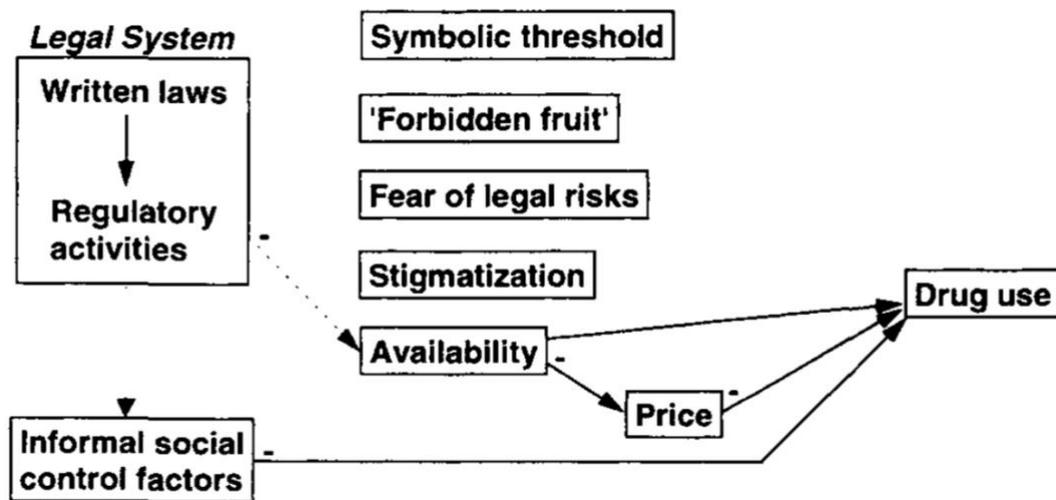


Figure 3 Mechanisms of legal influence on drug use after legalisation (dotted line indicates weaker effect) (MacCoun, 1993).

3.2.4.1 Price

Current users are not sensitive for price changes as most users relatively use small quantities of cannabis will not have a major impact on individuals' financial situation. 95% of the people will not consume more cannabis if the price decreased and 63% of the people will not use less if the prices would get much more expensive (Reinarmna, 2009, p. 32).

Daily users are more sensitive to price variants than less frequent users. The demand for daily users of cannabis is price elastic (Lakhdar, Vaillant & Wolff, 2016, p. 12). Purchasing of cannabis is related to the perceived quality of cannabis and income of users. When disposable income increased, high quality cannabis purchasing was greatly and proportionally increased (Goudie, Sumnall, Field, Clayton & Cole, 2007, p. 113). When users have a certain income, cannabis becomes a luxury good. Poor and average quality of cannabis were price inelastic and good quality was elastic to income (Goudie et al., 2007, p. 110). An assumption made by Goudie et al. (2007, p. 113) is that respondents will perceive high quality cannabis as high potency.

People who used cannabis over the last six months were asked to define whether they would buy illegal or legal cannabis with price ranges between free and 60 dollar a gram. The results show that legal cannabis is a superior product to illegal cannabis (Amlung et al., 2018, p. 117). The availability of legal cannabis substantially decreases the demand of illegal cannabis. Users are willing to spend more money on legal cannabis than on illegal cannabis. The study of Amlung et al. (2018, p. 116) claims that users are willing to spend 5 dollars more per gram on legal cannabis. The specific pricing of legal cannabis will determine the disruption of the black market as a too high legal price would still alarm users.

3.2.5 Product variety

Cannabis can be separated in weed and hashish. Weed is the dried and brown parts of the plant and hashish is the compressed part of the resin (Ritger & Niesink, 2018, p. 8). Dutch weed, Dutch hashish, imported weed and imported hashish is sold in Dutch coffeeshops. If multiple coffeeshops are present in the municipality their variety of products distinguishes them from the rest. A study in Amsterdam shows that 6 in 10 visitors of coffeeshops prefer weed, 3 in 10 hashish and 1 in 10 does not prefer one or the other.

Coffeeshops have on average 11.7 weed and 7.1 hashish varieties (Ritger & Niesink, 2018, p. 19). Dutch weed and foreign hashish are the most sold products in coffeeshops in the Netherlands (Ritger & Niesink, 2018). Hashish is predominantly from Morocco and Afghanistan (Ritger & Niesink, 2018, p. 33).

Growing hashish in the Netherlands has its implications as the grow process is dependent on the condition of the soil and climate. It is very difficult for Dutch growers to produce foreign hashish (Ritger & Niesink, 2018, p. 46). The challenge after legalisation is to reproduce the hashish to meet the demand of consumers. The black market will still be able to offer hashish from the Morocco. Product variety is a variable which is put under availability of cannabis to measure how users will respond to different sorts of cannabis and its availability.

3.2.6 Potency

Potency refers to the THC-level of cannabis. Over the past couple decades, the THC-level of cannabis has increased. More THC relates to a heavier type of cannabis (Reinarmna, 2007, p. 32). An explanation for this development is the constant interference of authorities during growing processes. This requires growers to grow cannabis indoors which leads to much better technological tools and more potent plants (Reinarmna, 2007, p. 33).

From the perspective of commercial interest, the higher-potency cannabis is much more viable as consumers need less cannabis to achieve a certain high (Caulkins, Kilmer, & Kleiman, 2016, p. 12). Nevertheless, it is much more dangerous as it is difficult to judge the cannabis, the high is much more intensive and the increasing CBD leads to more negative health effects (Caulkins et al., p. 12-13).

In the Netherlands, the decriminalised cannabis market is more transparent than other illegal markets. Users are more aware of the potency level of cannabis and are more capable of dosing their consumption different from non-transparent markets. Reinerman (2009, p. 33) measured the difference in Amsterdam and San Francisco and observed a difference in consumer preference. Users in an illegal market from San Francisco preferred stronger potency than those in Amsterdam (Reinerman, 2009, p. 33). The scope of the study of Reinerman in 2009 was beyond explaining the reason behind this. However, a historical comparison is made

with the alcohol prohibition in the United States between 1920 and 1933. During this period alcohol users preferred heavier alcohol instead of milder alcohol (Reinarman, 2009, p. 33). It is difficult to point whether the producers and smugglers found it easier to smuggle less quantities with more potency or users just preferred heavier alcohol. After the legalisation of alcohol, an increase in milder drinks and a decrease in heavier drinks was observed (Reinarman, 2009, p. 34). The potency is also put under the availability of cannabis in order to measure the effect of potency of users their choice

3.2.7 Recent cannabis market interventions and reception

In recent time, the Dutch government has implemented policy interventions that are different from the regular coffeeshop policy where everybody is allowed to purchase cannabis. This system struggled with nuisance like parking problems and tourist who travelled to the Netherlands to purchase cannabis (van Ooyen-Houben, Bieleman & Korf, 2016, p. 114). Drug tourism is especially a problem in the border region.

A private club criterion was added by the Dutch government to only permit registered members of a coffee shop to purchase cannabis. If coffeeshops were able to register all their members, authorities are more capable of managing the coffeeshops. Furthermore, the residence criterion only allowed the purchase of cannabis by Dutch citizens in order to tackle drug tourism (van Ooyen-Houben, et al., 2016, p. 114). The new criteria were only enforced in the southern provinces.

Nuisance of coffeeshop customers decreased after this policy but nonetheless residents in the proximity of coffeeshops experienced more nuisance of street dealing (van Ooyen-Houben et al., 2016, p. 116). The nuisance was not caused by drug tourists, but by locals who did not want to register as a member to be able to purchase cannabis. The amount of drug tourist was successfully decreased but on the contrary, locals shifted to the black market (van Ooyen-Houben et al., 2016, p. 118). It even attracted young adults and adolescents to run and deal drugs (van Ooyen-Houben et al., 2016, p. 118). Local governments stopped enforcing the private club criterion to get users back to the coffeeshops. This did not directly got all users back to the coffeeshop. Some users still purchased their cannabis from the black market.

Overall, cannabis users' market is very dynamic and resilient. Users react very quickly to changes in policy (van Ooyen-Houben et al., 2016, p. 119). From this it can be observed that policy conditions have impact on the offer of cannabis to users and these users are very dynamic. The policy conditions of cannabis sale in municipalities and later in the experiment are an important factor. The variable policy conditions is put under accessibility as the policy conditions can protect different influences on the accessibility to coffeeshops.

3.3 Conceptualisation

The theories and literature produce different variables and characteristics of these variables. All help explaining the behaviour of students. The behaviour is separated in two decisions. The first decision is the student willing to purchase cannabis and the decision is focused on which cannabis retailer will be selected. The retailers are the coffeeshops and the black market. The choice is influenced by the routine activity theory's three components. The conceptual framework is to be found in figure 4.

First, the offender is the student. The offender's behaviour is influenced by his/her personal characteristics such as age, gender, nationality, and school. These variables are not only used to analyse their influence on behaviour, it is an addition to analyse the representativeness of the survey population. Moreover, the motivation of the students is measured to analyse to what extent different motivations the students have.

Second, the opportunity is influenced by accessibility and availability. The accessibility is characterised as the convenience, presence, policy conditions, and retailer. It focusses primarily on the retailer being either a coffeeshop or the black market. The availability focusses more on the cannabis as the product itself. It is characterised by price, product, and potency.

Finally, the guardian is influenced by legal risks and is characterised as probability of apprehension and perceived penalty. The guardian are the authorities and their influence on the decision is influenced by different people.



Figure 4 Conceptual framework of the routine activity theory

The second decision is to purchase cannabis for non-users after legalisation. Their behaviour is analysed by the rational choice theory which is characterised as benefits and costs. The benefit of trying cannabis is the experience that students will receive. The temptation to purchase cannabis is then fulfilled. Moreover, the socialisation is seen as benefit as copying behaviour relates to a more valued relation. The costs are influenced by the accessibility of coffeeshops and the price. The accessibility is measured to clarify to what extent a close by coffeeshop influences their behaviour in relation to cannabis use. The price of cannabis is an additional cost. In addition, a penalty is seen as a cost. The penalty for the participating in cannabis use is influenced by informal control by their social environment. The conceptual framework of the rational theory choice theory is to be found in figure 5.

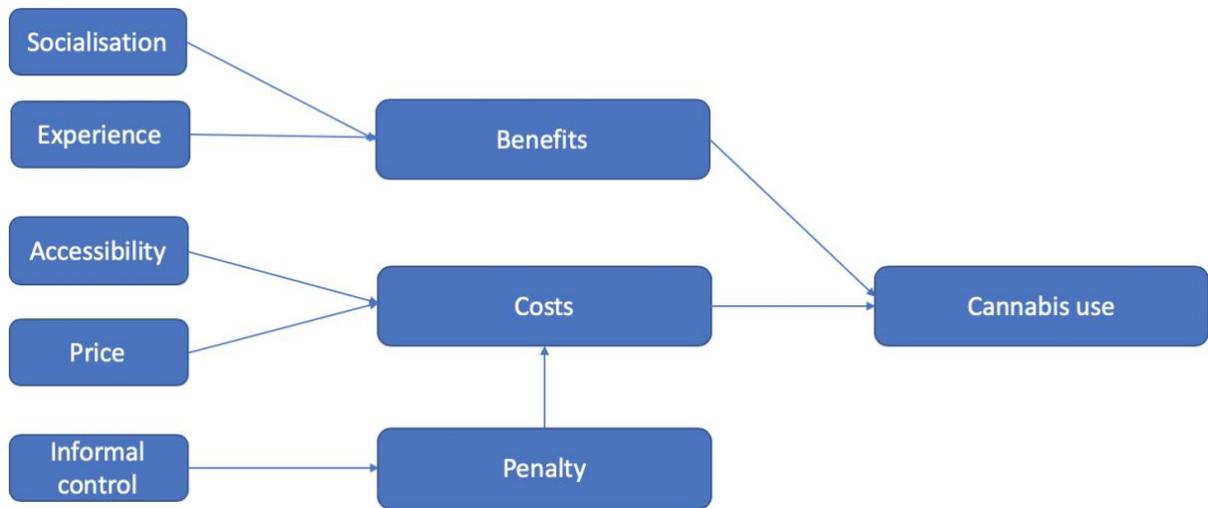


Figure 5 Conceptual framework of the rational choice theory.

4 Methodology

This chapter will explain the methodology of the study, how the data will be collected and what will be done with the data once they are collected.

4.1 Research design

The formulated research question is an empirical explanatory question. The explanatory part of the study will cover the current consumer behaviour and the intentions of new users. Additionally, the effect of legalisation will be analysed from the point of users and to what extent it has effect on their behaviour. The students who do purchase cannabis are studied to what extent their consumer behaviour is influenced by identified characteristics. This part focusses on the current situation, before legalisation. Next, the hypothetical future scenario is presented to the respondents. The goal is then to analyse the behaviour of students after legalisation using self-reported data.

The units of analysis are users of cannabis and potential new users under students. The units of observation are individual students. This study is a cross-sectional study as the units are questioned during one single time frame. The risk of the single timeframe measurement is that individuals' perspectives can change overtime. Furthermore, individuals may act differently in the future.

The research design is a quantitative study using the data collection method of an online survey. In addition, the online survey will protect the anonymity of the (potential) users. The subject could be a sensitive topic to talk about for individuals as some will not openly admit using cannabis. The measurement method will protect the anonymity of the questioned individuals.

4.2 Data collection

4.2.1 Respondent sampling

The research design is a quantitative study using the data collection method of an online survey. The survey method is a web survey-based questionnaire that will be available online. To reach a representative sample a minimum of 96 respondents have to be reached using a 95% confidence interval and a 10% margin of error. 26.000 students attend the University of Twente and Saxion the University of Applied Sciences in Twente (University of Twente, 2018; Studiekeuze123.nl, 2019).

Nonprobability sampling is conducted in this study as it is not possible to randomly select individuals from the whole population. Privacy regulations prevent sampling of all students in Twente. Available subjects were approached on the University of Twente campus and in front of the Saxion University of Applied Sciences. The individuals at these premises are predominantly students. 450 business card were handed out which contained a QR-code. The QR-code directs the students to the survey which is be presented in both Dutch and English. This method allows participants to submit the survey whenever they prefer. 63 students successfully finished the survey (response rate of 14%).

The nonprobability sampling and convenience sampling stresses the essence of forming questions regarding a person's characteristics such as age, residence, and education institution while still protecting their anonymity. These questions will help to discuss the representativeness of the sample.

4.2.2 Survey design

The survey is presented to the respondents via the website Qualtrics. The first part of the survey consists of general question. This part distinguishes users from non-users. The users are presented with questions on their current cannabis purchasing behaviour. After that, a second part a scenario is presented to the users on the future once the closed coffeeshop chain has been implemented. The non-users are presented with questions with the scenario only after the legalisation to understand to what extent legalisation will affect their consumer behaviour.

4.3 Data analysis

The data are extracted from Qualtrics to the computer program SPSS to edit, understand and analyse the data. An example is the age variable. People are able to put their exact age but in order to make this variable practicable the age have to be categorised. When presenting data, the data should be detailed to the fullest degree but also has to be presented in a manageable form (Babbie, 2016, p. 422).

The data will be organised and labelled in order to have a clear overview. The organised data is also more useful if less relevant data is filtered out. Some data may come forward as irrelevant as respondent may misunderstand questions or the questions have a low level of validity.

Firstly, univariate analysis will be conducted. Univariate analysis are the analysis of a single variable such as frequency distributions, averages and measures of dispersion (Babbie, 2016, p. 416). For example, this analysis will show the ratio men and woman of the sample, age distribution, the scaled opinion of legalisation of cannabis or the average price cannabis users pay per gram. Additionally, the differences between subgroups, such as students and full-timers, can be analysed.

Secondly, bivariate analysis will compare two variables at the same time. With univariate analysis groups are also compared but with bivariate analysis the relationship of two variables is also determined (Babbie, 2016, p. 425). Examples are tables and correlations coefficient measures. Examples are the price of state cannabis on non-users, frequency and maximum price per gram.

Statistical analyses are included to clarify the findings. Descriptive statistics describe the characteristics of a sample or the relationship among variable in a sample (Babbie, 2016, p. 452). Inferential statistics make inferences about the larger population from the sample observation were drawn (Babbie, 2016, p. 452).

Finally, in order to fully understand the outcome of the analysis, the results will be interpreted with theories and literature of other studies in order to find out why individuals for example would want to buy black market cannabis rather than state regulated cannabis.

4.4 Operationalisation

The theory and literature give an indication which variables are measured in order to gather data under which question. This paragraph will operationalise the sub-questions. The first two sub-questions regard the effect on users. Their current and future behaviour is analysed. The third sub-question is for non-users and their perceived behaviour on legalisation. The conceptualisations are given with the variables. After the variables, questions and their potential answers are given. The operationalisation can be found in appendix 9.1. The questionnaire that was created with the operationalisation can be found in appendix 9.2.

4.4.1 Sub-question 1

1. How is the current consumer behaviour of cannabis characterised and motivated under students in Twente?

Firstly, the current state of cannabis consumer behaviour under students is identified. The identified consumer behaviour and motivation are operationalised. These questions are only presented to individuals who have purchased cannabis in the last 12 months. The identified concepts are consumer behaviour with the variables purchase, availability, accessibility, price, potency, product type and retailer and the Marijuana Motives Measures with their five different motivations. The operationalisation of sub-question 1 can be found in appendix 9.1.1.

4.4.2 Sub-question 2

2. Which characteristics of legalisation on the bases of consumers should be implemented to keep students predominantly purchase state regulated cannabis in coffeeshops?

The second sub-question captures the characteristics of the state regulated cannabis and which requirement it has to have to get and retain consumers from purchasing cannabis from the state. This part of the questionnaire will capture their future behaviour using self-reporting. The identified concepts are consumer behaviour with the variables purchase, availability, accessibility, price, potency, product type and retailer and the routine activity theory with the variables motivated offender, suitable transaction and an absent guardian. The outcome of the analysis with the theory could help legislators getting consumer into the

coffeeshop and thus, preventing them from buying of the black mark. The operationalisation of sub-question 2 can be found in appendix 9.1.2.

4.4.3 Sub-question 3

3. To what extent will legalisation of cannabis evoke non-user students to purchase cannabis in coffeeshops?

The third sub-question focusses on the non-users questions and to what extent legalisation will affect this group. The non-users use self-reporting for their own behaviour. The mechanism of legal influence on drug use after legalisation is applied here. Five variables are identified using the mechanism: socialisation, experience, accessibility, price and informal control. The operationalisation of sub-question 3 can be found in appendix 9.1.3.

4.5 Reliability and validity

Reliability is a matter of whether a different data collection method on the same object will produce the same results (Babbie, 2016, p. 146). The data collection method used in this study is a survey. The individuals studied produce data within a single time frame, could be under the influence of social-conformity. Furthermore, the survey created will primarily have clear closed questions to increase reliability. The interpretation of the data is clearer, yet limits generating more specific data than given via a survey. Additionally, a big sample size is the goal to ensure representativeness of the study on the population. The survey starts with generalised questions like gender, age and which school or universities the students attend in order to create an oversight of the sample.

Validity is to what extend an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 2016, p. 148). According to Babbie (2016, p. 280) survey research is generally weaker on validity as questions tend to be more superficial. Theories in chapter 3 and the operationalisation in chapter 4 help create a more valid measurement.

5 Results

This chapter will focus on answering the sub-questions using the gathered data, theory and literature. The first part of questions characterised the users and non-users of cannabis. 20 users were characterised as users and 43 as non-users. 37% of the sample used cannabis in the past 12 months, which is high in perspective of the national percentage of 9.8% of last year use under higher educated people (van Laar et al., 2019, p. 97). A possible explanation is that users are more likely to fill in the survey as the subject interests them. The users were then characterised as legal purchasers and illegal purchasers. 12 of the 20 users did ever purchase cannabis apart from coffeeshops.

5.1 Current cannabis use under students

The first sub question is formulated as follows: *How is the current consumer behaviour of cannabis characterised and motivated under students in Twente?* The sub-question will be answered using three identified variables: offender, as the user and opportunity pre-legalisation.

5.1.1 Offender

The selection of cannabis users of their retailer is based on three identified variables. The first is the offender as the user with their personal characteristics and motivation as identified in chapter three.

5.1.1.1 Personal characteristics

Firstly, the data of the personal characteristics shows more men than woman have used cannabis in the past 12 months. A chi-square test calculated the comparison between gender and user/non-user. A significant interaction was found ($\chi^2 (1) = 5.848, p. < 0.05$). Men are more likely to be users than women. The statistical output can be found in Appendix 9.3.1.

Van Laar et al. (2019, p. 96) study shows a factor of two in last year use between men and women while this sample shows a factor of more than five. A possible explanation is the nonprobability sampling method. Allegedly, more men than woman were approached and more men than women would be willing to fill in the survey.

Moreover, to determine whether there is a statistical difference between the age of users and non-users, an independent sample t-test is conducted. A p-value lower than 0.05 will only result in a significance difference. No significance was found between the age of users and non-users, $t(61) = -0.944$, $p = -0.349$. However, when two outliers were removed a significant difference was found between the age of users and non-users, $t(59) = -2,135$, $p = <0,05$. The users have a higher mean than non-users. The statistical output can be found in Appendix 9.3.2.

Furthermore, the number of users under foreigners is higher in threefold. A possible explanation is that this group has no experience with cannabis in their native country. Currently having uncomplicated access to cannabis leads to experimenting for 70% of the foreigners.

5.1.1.2 Motivation

Secondly, the Marijuana Motive Measure of Simons et al. (1998) model is utilised in order to measure students' motivations for marijuana use. The students responded to six different questions and answered with a Likert scale.

Most students used cannabis for pleasure and to have more fun during social gatherings. Almost no students use cannabis for keeping up with friends, medicinal physical purposes, and personal troubles. The answers on experimenting with marijuana are more spread. A Spearman's Rho analysis was performed with all six questions. A moderate relationship is found between keeping up with friends and having fun during social gatherings, $R_s = 0,485$, $p = <0,05$. Cannabis is used in social gatherings with friends and this brings some form pressure to also use cannabis. Non-use will not definitely lead to exclusion by friends but refraining from cannabis use and thus intoxication leads to missing out on levelling with the rest of the group.

Another moderate association was found between the motivation of dealing with personal mental troubles and use for medicinal psychical purposes, $R_s = 0,543$, $p = <0,05$. The relationship between both dealing with mental and psychical troubles seems to be related, in a way that both of these motivations are not the main motives for cannabis students to use when looking at the given answers in figure 6. The total statistical output of Spearman's Rho analysis is found in appendix 9.3.3.

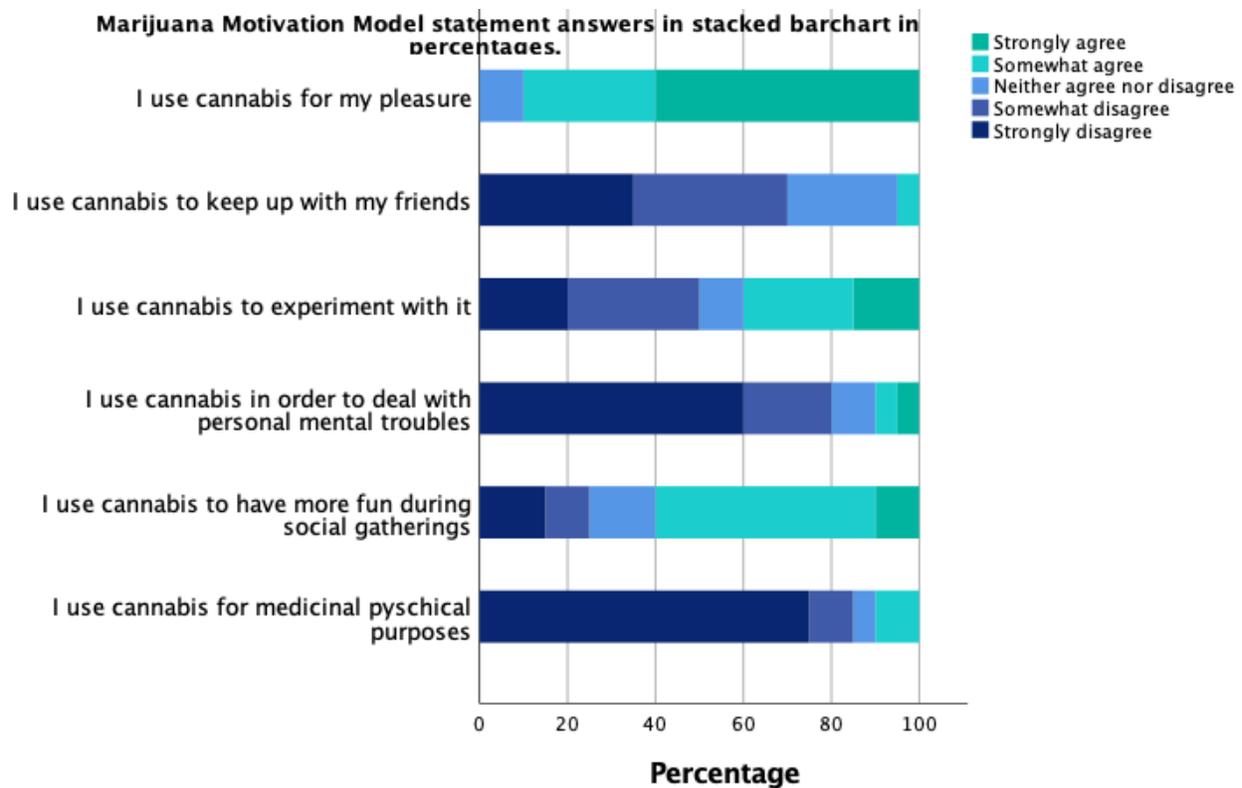


Figure 6 Marijuana Motive Model visualisation of answers on six statements (n = 20).

5.1.2 Opportunity

5.1.2.1 Accessibility

The second identified variable influencing the choice of selecting cannabis retailer is opportunity. Opportunity is characterised by accessibility of a cannabis retailer and the availability of the cannabis product.

First, accessibility is analysed. 57.1% of the respondents have a coffeeshop in their municipality and within this group 91.7% are aware the location of at least one coffeeshop. Furthermore, the respondents are divided into users and non-users to analyse whether users knew coffeeshops locations better than non-users. All users and 87% of the non-users are familiar with the location of a coffeeshop within their municipality. Therefore, most students are familiar with a location to purchase cannabis whether they use of cannabis or not. Yet, the presence of coffeeshops does not persuade students into purchasing cannabis.

The second characteristic under accessibility is convenience which is explained as comfort of purchasing cannabis. Three questions measure convenience: *“the coffeeshop(s) within my municipality are close by to my home”*, *“the coffeeshop(s) within my municipality has wide opening hours”* and *“the coffeeshops within my municipality can easily be reached.”*

A moderate significant relationship was found between a coffeeshop’s distance to an individual’s home and a coffeeshop being easily reachable, $R_s = 0,572$, $p = <0,05$. Users see a close distance as easily reachable. The respondents who disagree with the statement on how close by a coffeeshop is, still (predominantly) purchase cannabis in coffeeshops. Wouters & Korf (2009, p. 645) claim that no coffeeshops presence would lead to less temptation to purchase cannabis in coffeeshops. There seems to be no proof for this claim in this study. On a side note, the answer given is subjective. Some individuals will see a coffeeshop a kilometre away as far and others will not. In addition, the answered question has a rather small population ($n = 13$).

The third characteristic of accessibility is policy conditions. This will not be discussed in this paragraph as it concerns conditions of policy after legalisation.

The fourth characteristic is retailer. The retailer of users is analysed in order to determine how the current market is divided. 80% of the users purchase their cannabis solely or predominantly from a coffeeshop. None of the users purchase their cannabis exclusively from the street market.

However, 60% of the users has ever purchased cannabis different from coffeeshops. Moreover, 20% of the users ever bought cannabis outside a coffeeshop but currently purchase cannabis exclusively from coffeeshops. It is not clear why people went back to purchasing cannabis in coffeeshops. It is an interesting observation for future cannabis policy to understand why users go back to coffeeshop cannabis.

The main reason to purchase cannabis different from coffeeshops is price (50%). Other reasons are better quality (15%) and easier access (15%). None of the users diverged to the black market for more quantity. As discussed in chapter 2, the current policy limits the sale to a maximum of 5 gram per transaction (MacCoun, 2011, p. 1990). This seems to be sufficient for

users. Only one user commented that their motivation under “*other*” was to purchase bigger quantities for a relative reduced price.

5.1.2.2 Availability

The second variable influencing opportunity is availability of the cannabis product. It is characterised by price, product (sort) and potency level.

The importance of price was already shortly discussed in the motivation of users to purchase cannabis from the black market. 50% of the offenders motivated their choice of black market cannabis because cannabis was cheaper. In addition, the user is also depended on their income and the quantity of use which is not measured in this study (Goudie et al., 2007, p. 110; Lakhdar, Vaillant & Wolff, 2016, p. 12).

Secondly, the product sort is analysed. Dutch weed, imported weed, Dutch hashish and imported hashish. Dutch weed and foreign hashish are the most sold products in coffeeshops in the Netherlands (Ritger & Niesink, 2018). 33.3% of the users answered with “that varies” on their preferred product and 26.7% preferred Dutch weed. Imported weed, Dutch and imported hashish all are preferred by 13.3% of the users. A side note that this question was answered by a small number of respondents (n = 15). Nevertheless, Dutch weed seems to be the most popular product under users. According to Ritger & Niesink (2018) Dutch weed is mostly sold in the Netherlands. Imported hashish is the second most often sold product. Imported weed and Dutch hashish are barely sold.

Finally, the product potency is a characteristic of availability. Users seem to prefer higher levels of THC in their cannabis to achieve a greater sense of high (Ritger & Niesink, 2018, p. 50). The statement “*I choose my cannabis retailer on the THC level of their offered cannabis*” was presented to the users under the respondents with answer options on a five point Likert scale. The response can be found in figure 7. Only 20% of the users do somewhat or strongly agrees with the statement. In other words, most students do not select their cannabis on THC level. An assumption made by Goudie et al. (2007, p, 113) is that their respondents perceive high quality cannabis as high potency. In retrospect with price, students prefer the price over the potency and thus quality of their purchased cannabis when selecting their retailer. However, the

students seem not to focus on the quality of cannabis like regular users as Ritger & Niesink (2018) observed in their study.

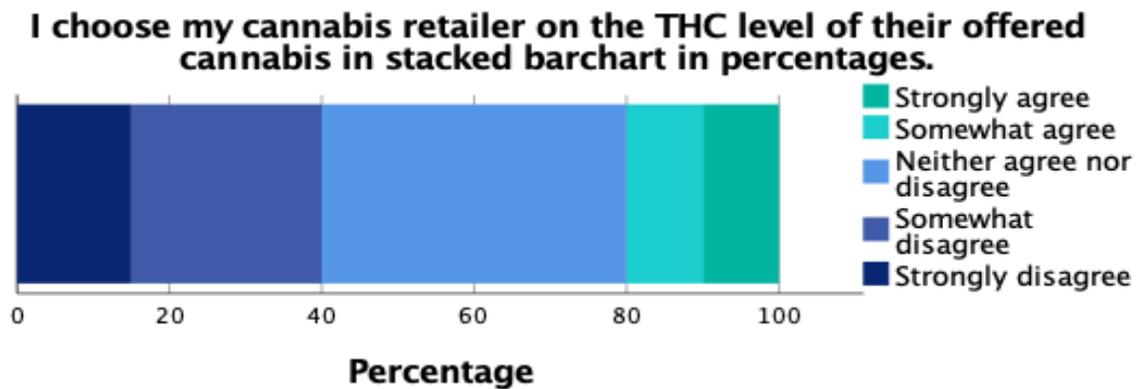


Figure 7 Stacked bar chart on users who select their retailer on the level of THC in cannabis (n = 20).

5.1.3 Conclusion

The data and analysis of paragraph 5.1 is now used to answer the sub-question “How is the current consumer behaviour of cannabis characterised and motivated under students in Twente?”

Significantly more men use cannabis than women. However, this sample has compared to national numbers a high number of men as result of a non-probability sampling. Furthermore, significance was found between the age of students and use of cannabis when the outliers were removed from the analysis. Users are older than non-users. Respondents from abroad are three times more likely to be users than Dutch natives. A possible explanation is the unrestricted access to cannabis in the Netherlands.

Marijuana use under students is mainly motivated by pleasure and increasing fun during social gatherings. A significant relationship was found between keeping up with friends and having fun during social gathering. If other friends are under the influence of cannabis, others seem also eager to use cannabis. Another moderate significant relationship was found between marijuana use for mental and medicinal purposes. Both of these statements of motivations is heavily disagreed with under students. In other words, most students do not use cannabis for mental or medicinal purposes.

Students are generally familiar with the location of a coffeeshop and thus know where to purchase cannabis. Yet, the presence of coffeeshops does not persuade students into purchasing cannabis. In addition, a coffeeshop which is not nearby is still preferred over the black market.

Additionally, 60% of the users has ever purchased cannabis different from a coffeeshop. Their main motivation is the price of cannabis, followed by better quality and easier access. Only 20% of the users chose their retailer of the basis of THC-level. These students primarily focus on the price of cannabis when selecting their cannabis retailer.

5.2 The influence of future legalisation policy

The second sub-question focuses on post-legalisation. Current users were presented with questions and statements on the future and how they would expect to react. The paragraph is also structured according to the model discussed in chapter 3 yet some variables are excluded as these are not relevant post-legalisation. This paragraph will focus on accessibility and availability of cannabis after legalisation and perceived penalties by black market purchasers. The sub-question that will be answered is formulated as follows: *“Which characteristics of the legalisation policy will stimulate students to purchase predominantly state regulated cannabis in coffeeshops?”*

5.2.1 Accessibility

The variable accessibility is characterised after legalisation by convenience, policy conditions and retailer.

Firstly, convenience is examined. The opening hours of coffeeshops are important to users. 70% of the users is willing to make an extra effort to purchase black market cannabis if the coffeeshop is closed at night. From paragraph 5.1.2.1 it was understood that a coffeeshop does not need to be close by for users in order for them to purchase cannabis from a coffeeshop.

Earlier this decade local authorities implemented a policy condition where users were obliged to sign up at a coffeeshop as a member. This resulted in an increase of black market cannabis activities (van Ooyen-Houben et al., 2016, p. 118). The question if users would refrain from purchasing state regulated cannabis was presented to the respondents and the answers are almost evenly divided. Some users seem not to care and others are scared by the idea of registration. To find any significance between users who have access to the black market and those who do not, a Mann-Whitney score Test is conducted. There is no significant relationship between users who do refrain from purchasing cannabis in coffeeshops that registered their names and the ability of them to use the black market as substitute, $U = 46,5$, $p = .910$.

85% of all the users would generally prefer the state regulated coffeeshop over the black market. The other 15% seem more sceptical and neither disagree nor agree. In addition, if both state regulated and black market cannabis were available all users prefer the state regulated cannabis even though they have zero experience with the regulated product. It seems that users give state regulated cannabis the benefit of the doubt. An emphasize on the first batch is to be considered to meet the expectations of users. If the first batch fails, there has to be extra effort to regain trust in the product. Cannabis users and the market are very dynamic and resilient. Users change very quickly to changes policy (van Ooyen-Houben et al., 2016, p. 119).

5.2.2 Availability

Availability is characterised by price, product and potency. The price of cannabis is an important factor on the choice of retailers, if not the most important. Users were asked at which price difference they would switch from state regulated cannabis to street market cannabis. The median is €5,90 and the interquartile range is €6,40 which starts at €3,60 and ends at €10,00. The answers are visualised in a boxplot which can be found in figure 8. 75% of the users will look for other opportunities if the price difference is €10,00. An ideal price difference is not higher than 4 euro's compared to the black market price.

Boxplot of at which price difference a user would switch from state regulated cannabis to street market cannabis – in Euro's

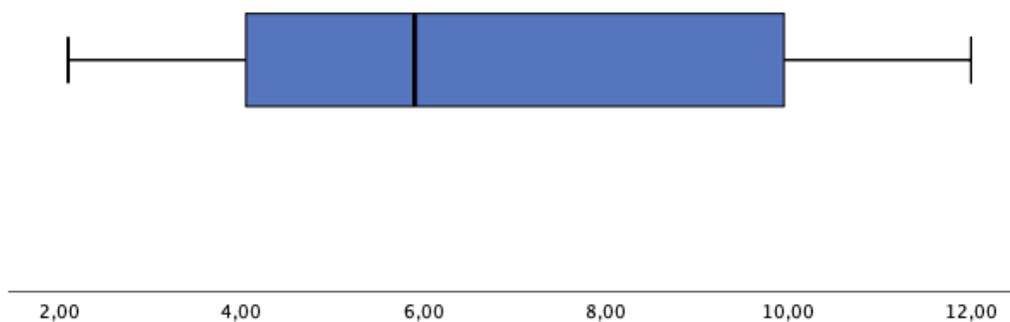


Figure 8 Boxplot of the price difference per gram when users will switch from retailer (n = 20).

The outcomes are accordingly to the Amlung et al. (2018) study where users prefer legal cannabis over illegal cannabis if the price is not higher than 5 dollars per gram (\approx €4,50). However, this study focuses on students. The average student has a lower income and will pick price over quality as their income is not sufficient to purchase more expensive cannabis. The poor and average quality of cannabis is price inelastic as users will keep purchasing cannabis (Goudie et al., 2007, p. 110). The price determines where the cannabis is purchased.

In Canada, where cannabis legalisation already has been implemented, illegal cannabis is cheaper than legal cannabis. The price of legal cannabis is at least 40% higher composed the black market (Statistics Canada, 2019). Dispensaries in Canada are capable of meeting the demand of consumers yet are not able to compete with the black market as their product is taxed, tested and supervised by the Canadian Government (Rasmi, 2019).

The difference between the Netherlands and Canada is that coffeeshops are already implemented in societal structures and visiting a coffeeshop is already part of people's routine. The black market will not only have to offer a product with a lower price but also has to challenge the coffeeshop's convenience.

Secondly, none of the users purchases cannabis outside of the coffeeshop to get a hold of cannabis which is not available as all cannabis can be offered by a grower to a coffeeshops owner. This situation changes during the experiment in the participating municipalities and after the legalisation.

As earlier discussed, four different kinds of cannabis are sold in coffeeshops where Dutch weed and imported hashish are the most popular (Ritger & Niesink, 2018, p. 33). The availability of Dutch weed will not be an issue. However, the availability of imported hashish could become a concern. Imported hashish is primarily imported from Morocco and Afghanistan (Ritger & Niesink, 2018, p. 33). These countries have an ideal climate for growing and producing hashish. It will be difficult to mimic imported hashish in the Netherlands. Coffeeshops owner and chairman of the Association of Cannabis retailers Joachim Helms considers producing hashish in Netherlands as impossible. Assumingly, a part of the users will seek to find the product on the black market (NOS, 2018).

Nevertheless, 64.3% of the hashish users claim that they will purchase Dutch hashish if imported hashish is not available. As mentioned earlier, the state regulated cannabis receives the benefit of the doubt from users even though experts claim that the quality of hashish will not meet the expectations. The first batch of homegrown 'foreign' hashish will be crucial.

Thirdly, 40% of the users would deviate to the black market in order to obtain a higher potency in cannabis. A primary concern with black market cannabis is that the THC-level is unknown which could lead to health issues. The state regulated cannabis' THC-level requires to compete with the black market and provide a healthy level of THC for consumers at the same time. Transparency on the THC-level of state regulated cannabis could create trust under users. This can be used the other way around to warn users of the black market where there is a lack of quality control.

5.2.3 Legal risks

The third variable influencing the choice of selecting a cannabis retailer is the guardian which is characterised by legal risks. This variable is measured in order to understand to what extent the legal risks influence the decision to purchase illegal cannabis. The legal risks is characterised by probability of apprehension and the perceived penalty.

Four statements were presented on the influence of legal risks: *"I refrain from committing a transaction if I know police are close by"*, *"When I purchase cannabis of the street market, I do take the penalty of getting caught into consideration"*, *"If surveillance is increased it will be less tempting to purchase cannabis from the street market"* and *"If penalties are increased it will be less tempting to purchase cannabis from the street market."* These answered by respondents using a five point Likert scale who purchase cannabis from the black market. Between 50% and 60%, for all of the four statements, of the users somewhat or strongly agrees. From this it can be understood that only half of the users anticipate the legal risks of purchasing cannabis from the black market and half of the users are influenced by increased surveillance and penalties.

The answers given by the respondents may be influenced by the environment where the cannabis is purchased. If users purchase cannabis at a friend's house or at a neighbour the

threat of surveillance is limited compared to users who purchase cannabis in public from a person outside of their social environment.

Furthermore, the perceived penalty can be very subjective to different individuals as discussed in chapter 3. Some will refrain from an action while others will not from the same act that holds an equal penalty.

5.2.4 Conclusion

To results from this paragraph will be used to answer the sub-question “*Which characteristics of the legalisation policy will stimulate students to purchase predominantly state regulated cannabis in coffeeshops?*”

Firstly, the convenience is noted by users as important in the form of opening hours. The location of coffeeshops for user is irrelevant. Secondly, no evidence was found that registering users’ name as coffeeshop member will withhold users from purchasing cannabis in a coffeeshop. Nevertheless, earlier studies suggested that this policy condition supplied encouraged the cannabis black market. Thirdly, it seems that users currently prefer state regulated cannabis over black market cannabis. It is crucial that the first state product lives up to the expectations of users to keep and gain trust.

These expectations from users are identified as follows. At first, most users will not purchase cannabis from the black market if the price difference is lower than 4 euros. This will be a challenge as state regulated cannabis is to be produced under higher quality control and will be taxed. The price primarily determines where users will purchase cannabis.

In addition, some users will try to seek for higher level of THC in cannabis even if that results in purchasing black market cannabis. The challenge is to find a balance between what is both healthy and what is competitive with the black market. Transparency on state regulated cannabis and risk communication on black market cannabis could influence their choice.

Furthermore, users will switch to Dutch hashish if imported hashish are unavailable. This group is assumed to be unaware of the challenge of duplicating the quality of foreign hashish. The availability of imported hashish in state regulated coffeeshops is to be considered.

Assumingly, foreign hashish users will seek for imported hashish on the black market if Dutch hashish does not meet the expectations even though users claim they will initially try Dutch hashish.

Thirdly, half of the users anticipates legal risks when purchasing cannabis from the black market. The half of users are less tempted to purchase cannabis of the black market if higher penalties and more surveillance was in place. However, the other half will not withdraw from purchasing illegal cannabis when penalties and surveillance are increased.

Overall, the state regulated cannabis could be made more attractive than black market cannabis by the accessibility of coffeeshops, the price/quality ratio of cannabis and the availability of different products while purchasing black market cannabis could be made less appealing by increasing penalties and surveillance.

5.3 Legalisation and the effect on non-users

This paragraph discusses in which way the non-users will behave after legalisation. At first, the variable benefits is described characterised by experience and socialisation. Then costs, including penalties will be discussed which is characterised by accessibility, price and informal control. The sub-question that will be answered is formulated as follows: *“To what extent will legalisation of cannabis evoke non-user students to purchase cannabis in coffeeshops?”*

5.3.1 Benefits

5.3.1.1 Experience

Most non-users will not have an increased interest in purchasing cannabis after legalisation. The legal status of cannabis is non-essential. Only 11.4 % of the non-users claim a somewhat higher interest in cannabis after legalisation. A possible explanation is that cannabis is already easily accessible and legalisation will not change the accessibility of cannabis. The outcomes of this study held in countries where cannabis is illegal could differ from these.

5.3.1.2 Socialisation

Another benefit is socialisation within their social environment. From the literature in chapter three it was understood that socialisation by peers is a risk factor for young adults especially when the relationship is of quality. The behaviour of the other individual will be more valued if their behaviour is copied (Andrews et al., 2002, p. 350).

95.3% of the non-users are able to say no to their friends when they offer cannabis and it shows that socialisation with other peers is irrelevant for the use of cannabis. However, the social consequences are unconsidered, for example not being able to exchange experiences. Additionally, whether their friends use cannabis plays part. If all people within their social environment do not smoke cannabis it is easier to decline compared to an environment where everybody uses cannabis.

5.3.2 Costs

5.3.2.1 Accessibility

Costs is characterised by accessibility of cannabis. The individual who contemplates on cannabis use is assumed to have the accessibility of cannabis weigh in on their decision. If cannabis is easily accessible the invested costs in effort and time is rather low.

Non-users are generally not more tempted to purchase cannabis if a cannabis is easily accessible. The statement if non-users were more tempted to purchase cannabis if there were a coffeeshop in their street was disagreed with by almost 75% of the people. Another 20,9% does not pick a stance on the statement and neither agrees nor disagrees.

5.3.2.2 Price

The price of cannabis has never withheld any of the non-users from purchasing cannabis. It is unknown whether non-users are aware of the price of cannabis. Non-users could be on the one hand aware of the price and do not weigh in the price as an important cost. On the other hand, they are unaware of the price and other factors could weigh in prior of their cost analysis to purchase cannabis. Above all, the price is irrelevant for non-users to initiate cannabis use.

In addition, the price that non-users would be willing to pay for cannabis one night strongly differs. The boxplot in figure 9 visualises the given answers. The median is €8,50 and the

Boxplot of the maximum price that of non-users would pay if they were to try out cannabis one night. Price in Euro's.

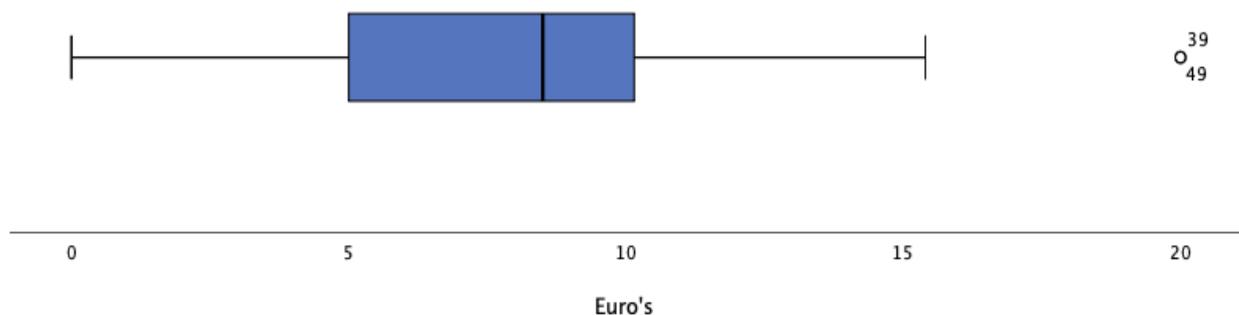


Figure 9 Boxplot of the maximum price that non-users are willing to spend when they would try out cannabis. Price in euro's. (n = 43).

interquartile range is €5 which starts at €5 and ends at €10. Two outliers have been identified with case numbers 39 and 49. Both respondents will not pay more than €20 for the use of cannabis in one night. Some users are not willing to spend money at all. A possible explanation is the total decline of cannabis use as an answer was forced during the survey. The price of cannabis in coffeeshops per gram is around €10 thus for most non-users sufficient (Ritger & Niesink, 2018, p. 3).

5.3.3 Perceived social penalty

Another cost is a social penalty. If individuals value the opinion of direct relationships and society their decision is influenced to a higher extent. Informal self- and social control are perhaps the major role in regulating drugs (MacCoun, 1993, p. 504). These kinds of control are likely to prevent individuals from using drugs. Policy conditions of the government will have limited influence. This subparagraph will discuss to what extent the non-users' social environment influences their decision. The questions were presented to both non-users and users.

In the first place, the focus is on Dutch society and how non-users perceive the stance of cannabis generally by the rest of society. In a society where cannabis use is heavily frowned upon the negative sides like social exclusion may surpass the benefits which could result in less drug use.

A nonparametric Mann-Whitney U test is applied to statistically find evidence between the two ranked means of non-users and users in combination with their perspective on Dutch society. There seems to be no significant difference in perspective of non-users and users on the Dutch population's stance on cannabis legalisation, $z = -1,693$, $p = 0,091$. The statistical output can be found in appendix 9.3.5.

However, figure 10 shows that non-users have a more divided perspective than users. Users have a more progressive view of society. Users are assumed to be more progressive and people generally are surrounded by individuals with overlapping norms and values. Furthermore, the relationship could also work the other way where a more progressive environment seduces cannabis use earlier. This explanation does not seem to stand for non-users as not even 25% of this group sees society as conservative. Overall, it looks that society has no influence on non-users. No evidence was found that non-users decline cannabis use because of societal pressure.

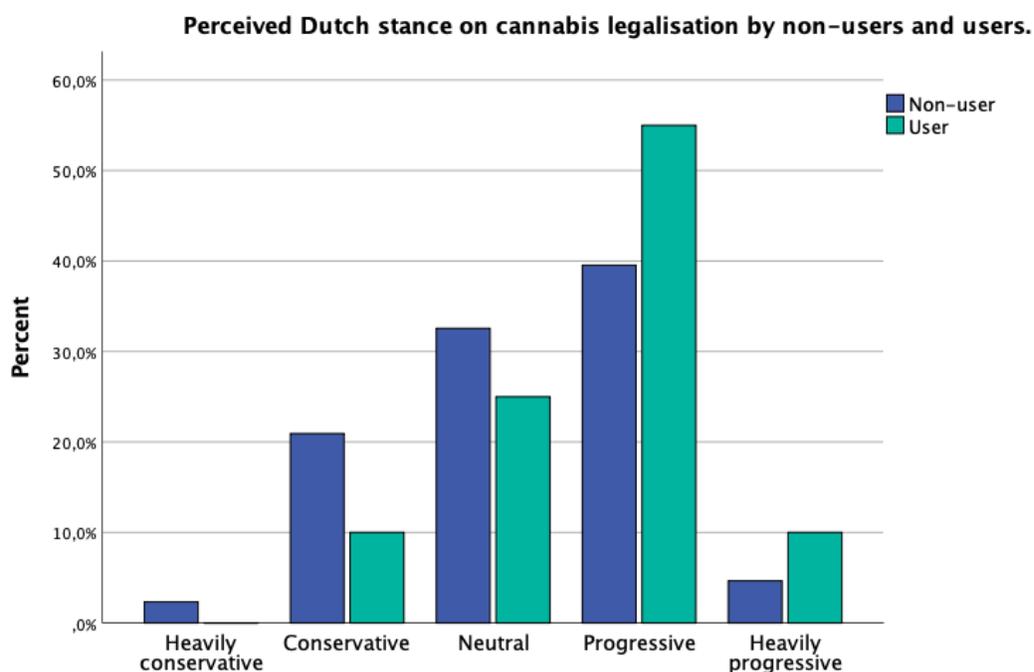


Figure 10 Perceived Dutch stance on cannabis legalisation categorised by non-users and users in percentages (N = 63).

Next to societal influence, is the effect of direct social environment. To conceptualise the social environment for the respondents a question was presented that asked who the person is whose opinion they valued the most. Most people answered with their family, followed by friends and then partner. Generally, that person has a scattered opinion on cannabis legalisation under non-users and most students indicated that they neither agree nor disagreed with the statement that asked for their perspective on legalisation. Most probably because the

respondents are unaware this person's stance. Moreover, this indicated persons' stance will not change according by legalisation.

A Spearman's Rho analysis was conducted with multiple questions. A significant moderate relation was found between hesitations to inform pre and post-legalisation, $R_s = 0,365$, $p = <0,05$. For non-users, legalisation has no influence on their hesitation to inform their direct environment after legalisation as the value remains the same. Legalisation will not drastically change their behaviour. The same relationship was found among users.

Moreover, a relationship was found between the direct social environment's changing perspective and hesitation to inform them of cannabis use. A Spearman's Rho showed a strong significant relationship, $R_s = 0,768$, $p = <0,05$. When the indicated person perspective is subject to change after legalisation their willingness to inform them of their use increases. The pressure of their social environment is relieved if people change their attitude because of legalisation. Another significant relationship was found. A progressive stance of a person within their direct social environment has influence on their comfortableness of talking to this person about their use, $R_s = 0,719$, $p = < 0,05$ The statistical output can be found in appendix 9.3.6.

60% of the users somewhat or fully agreed that their direct social environment has progressive stance on legalisation compared to 25.6% under non-users. Likewise, for the social environment of non-users, the users environment is not likely to change their opinion on cannabis after legalisation. The same significant relationship of hesitation to inform the person pre and post-legalisation is observed under users, $R_s = 0,630$, $p = < 0,05$.

Finally, 44.2% of the students would feel comfortable talking about cannabis use and only 32.6% of the non-users would feel comfortable to visit a coffeeshop. Furthermore, only 18.6% of the non-users would not mind if they come across someone they know when they would visit a coffeeshop. The extent of comfortableness decrease the more specific the questions get. The two following question sketch a more practical example where respondents can imagine a more specific scenario. Figure 11 clearly shows the decrease of the green categories somewhat agree and strongly agree. Overall, non-users are not very comfortable to talk about cannabis use and visiting coffeeshops. This seems to be explainable by their lack of experience and could pull back

potential users when legalisation is implemented. The threshold of purchasing cannabis in a coffeeshop is somewhat present. Users were more comfortable about use, visiting a coffeeshop, and coming across someone they know.

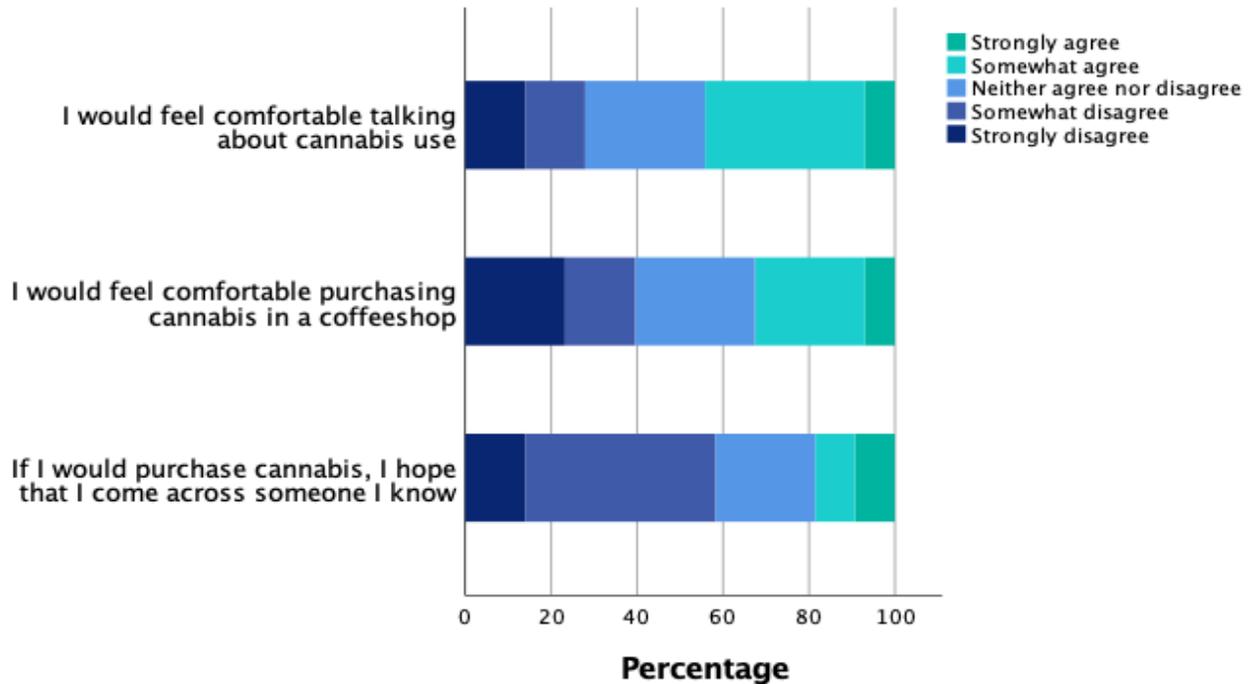


Figure 11 Three statements visualised by stacked bar charts on the level of comfortableness of non-users. (n = 43).

5.3.4 Conclusion

The sub-question is to be answered in this subparagraph using the results in from this paragraph. The sub-question is formulated as follows: *“To what extent will legalisation of cannabis evoke non-user students to purchase cannabis in coffeeshops?”*

Self-reporting of non-users shows that most non-users will not be more interested in purchasing cannabis after legalisation. A possible explanation is that cannabis is already easily accessible and legalisation will not change the accessibility of cannabis.

Furthermore, all non-users claim that the price of cannabis has never withheld them from purchasing cannabis. Other factors weigh on their decision to not purchase cannabis. In addition, 95.3% of the non-users is able to decline cannabis if it was offered to them.

Moreover, the social environment has a low influence on their choice of use of cannabis. Dutch society is progressive according to users, yet non-users have a more evenly divided perspective. For non-users their willingness to inform their direct social environment is significantly related to the changing perspective of their social environment after legalisation. If general acceptance would increase, the threshold would decrease. Additionally, the hesitation to inform their direct social environment of cannabis use before and after legalisation is significantly related. Their hesitation to inform is not subject to legalisation. Furthermore, the threshold for non-users on talking about their hypothetical cannabis use, visiting a coffeeshop and coming across someone they know while purchasing cannabis seems to also withhold them.

In conclusion, legalisation will not evoke immense new users in Twente among students. Cannabis is already accessible and available legalisation does not seem to have effect on non-users. The price of cannabis after legalisation is irrelevant for non-users as none of them ever was withheld by the costs of cannabis. Even when cannabis is offered to them, they are able to decline. Their motivation to not use cannabis goes beyond the matter of accessibility, price and socialisation.

6 Conclusion

This study focussed on answering the research question: *“To what extent will legalising cannabis affect consumer behaviour of current and potential users among students in Twente?”* A quantitative research was accomplished to study users and non-users of cannabis in Twente.

37% of the students are cannabis users. 85% of the users would prefer a state regulated coffeeshop over the black market post-legalisation. Initially, when both illegal and legal retailers would offer an identical product users prefer the state regulated cannabis. It is important that the first batch of state regulated cannabis meets the expectations of users to keep and gain trust in order for legalisation to succeed.

The identified expectations under students in Twente are as follows. First, the price is the most crucial factor weighing in on the decision where to purchase cannabis. Users will purchase cannabis from the state regulated coffeeshop when the price is more than 4 euro’s higher compared to the black market. This will be a challenge as seen from studies in Canada as state regulated cannabis is quality controlled and taxed. Secondly, THC-level is to some users a motivation to seek for the retailer who can offer the highest level. The challenge for the regulated cannabis is to find a balance between competitiveness and healthiness. However, state regulated coffeeshops have more resources to be transparent on the THC-level. Additionally, hashish users will switch to Dutch grown hashish if imported hashish is unavailable. Legalisation will prohibit the sale of foreign cannabis. It should be noted that experts doubt that Dutch hashish will meet the quality of imported hashish. If Dutch hashish does not meet with the expectations hashish users are assumed to deviate to the black market.

Additionally, coffeeshops are already implemented in social lives of users, their location does not influence the choice of cannabis retailer. However, the convenience of coffeeshops is important. Wide opening hours attracts users to coffeeshops instead of the black market.

Moreover, increasing the probability of apprehension and penalties on purchasing cannabis on the black market could influence the selection of individuals’ cannabis retailer.

Legalisation will not evoke immense new users in the Twente under students. The legal status of cannabis is irrelevant for their choice to use. Their motivation to not use cannabis goes beyond the matter of accessibility, price and socialisation. Cannabis is already accessible and legalisation will not change that. Additionally, almost all users are able to decline cannabis if it is offered even though the cannabis is accessible. However, social consequences are not considered as socialisation could play a role.

Moreover, the price of cannabis has never withheld non-users from purchasing cannabis. If users would be willing to purchase cannabis budget is between 5 and 10 euros which is sufficient looking at the current prices of cannabis in coffeeshops (Ritger & Niesink, 2018, p. 3).

Furthermore, non-users are not extremely influenced by their social environment. Legalisation will not influence their hesitation to inform their social environment of their potential use. Additionally, the threshold of talking about their hypothetical cannabis use, visiting a coffeeshop and coming across someone they know while purchasing cannabis seems to withhold them. Nevertheless, if general acceptance in their direct social environment would increase, non-users would be more open to talk about their hypothetical use.

In conclusion, legalisation will not extremely change behaviour under users and non-users. However, the decision of users to choose between state regulated cannabis and black market cannabis could be influenced by different characteristics. The state regulated cannabis could be made more attractive than black market cannabis by accessibility of coffeeshops, the price, quality and the availability of different products while purchasing black market cannabis could be made less appealing by increasing penalties and surveillance. Legalisation will not evoke extreme numbers of new users as their choice to not use cannabis is not influenced by the matter of socialisation, price and accessibility.

7 Discussion

Overall, the results indicate that legalisation will not extremely change behaviour under users and non-users according to self-reporting. For users particular results stand out. Firstly, the number of individuals who purchased cannabis from the black market. 60% of the users did ever purchase cannabis from the black market. The expectation was much lower with the presence of coffeeshops in the Netherlands. According to literature the presence of coffeeshops influenced the selection of retailer. No evidence was found as users generally preferred cannabis from the coffeeshop even if it costs more effort to visit one. Moreover, the choice of cannabis retailer is subject to the price of the product while preferring legal over illegal cannabis. In other words, cannabis is price inelastic. This was revealed by literature and confirmed by data. Furthermore, data revealed that some users were sensitive to increasing surveillance and penalties. Within the perspective of the routine activity control, guardianship is increased and individuals are less tempted to purchase black market cannabis.

Furthermore, availability and price is irrelevant for non-users. Even when cannabis was offered to them the students were able to decline. The mechanism of MacCoun (1991) indicated that drug use is subject to price, availability, and informal control. No evidence was found in this study. The willingness to decline cannabis goes beyond price, availability, and informal control. The expectation was that a low price and high availability would attract more individuals.

The two theories were used to conceptualise the variables. First, a modified routine activity theory, which derived from criminal theory, concentrated on the decision of users of selecting their cannabis retailer. The results indicate that the decision of users factors are mostly economic. Thus, an economic theory could reveal other results. Nevertheless, the theory gave an indication of legal risks. Secondly, the rational choice theory is a theory from an economic perspective and that behaviour is structured by costs and benefits. The theory gives a great insight into the benefit costs analysis of non-users. On the contrary, it lacks to identify the motivation of non-use. All other identified economic variables have no influence on their choice.

The sample size of 63 respondents is rather small within perspective of the total population who attends the two universities in Twente. Especially when the respondents are split in two

groups. Random selection of the total population is made impossible by recent privacy laws. In addition, the debate on legalisation of cannabis in the Netherlands is an ongoing debate. Respondents are subject information in the media. In a year, when the plans are more concrete, the study could have different outcomes. Furthermore, the units of observation are students and not the general public. Selecting general public could show different results.

There is some annotation on the validity of this study. First, the questionnaire has been created using different theories. Most questions were presented with answers possibilities using a Likert scale. It provides a simple and concrete answer and is practicable to code. However, respondents are unable to give their true perception on the matter. Moreover, respondents are able to randomly fill in answers.

Secondly, the study focusses on a future scenario and respondents produce self-report data on own perceived behaviour. Their behaviour in the future could be different than currently perceived which is influenced by the debate of legalisation, policies and experiences.

Finally, the non-probability sampling method influences the representativity of the sample. Business cards were handed out on the first day of the college year. First year students, who are probably younger, are assumed to be more present than other students. Additionally, the researcher handed out cards to passing students. Approaching students is unconsciously subject to bias.

Future research could focus on various subjects concerning cannabis legalisation in the Netherlands. First, the same study can be carried out throughout the Netherlands to study differences between geographical areas, in particular the ten municipalities that will participate in the experiment. The study can vary in timeframe as in pre and post-legalisation and sample selection with a general scope instead of only students. Another study can focus on non-users to determine why individuals withheld from cannabis use. These results can be reversed to uncover why other individuals do use cannabis. A final suggestion is centred on the black market. A more in depth analysis could reveal how the cannabis black market keeps seducing costumers. The results can be used to make the black market less attractive.

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9 Appendix

9.1 Operationalisation tables

9.1.1 Sub-question 1

Research question	Conceptualisation	Variables	Measurement	Answer
How is the current consumer behaviour of cannabis characterised and motivated under students in Twente?	Consumer behaviour	Purchase	"Have you purchased cannabis in the past 12 months?"	0 = yes; 1 = no; 2 = don't know
		Availability	"Do you have a coffeeshops in your municipality?"	0 = yes; 1 = no; 2 = don't know
			"Are you aware of the location(s) of the coffeeshop(s)?"	0 = yes; 1 = no
		Accessibility	"The coffeeshops within my municipality are easily accessible in terms of distance, opening hours, and logistics"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Potency	I choose my cannabis retailer on the THC level of their offered cannabis "	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree

		Product type	Which sort cannabis do you predominantly purchase?	0 = no preference; 1 = Dutch weed; 2 Imported weed; 3 = Dutch hashish; 4 = Imported hashish
		Retailer	"Where do you purchase cannabis?"	0 = coffeeshop; 1 = predominantly coffeeshop; 2 = coffeeshops and black market 3 = predominantly black market; 4 = black market
			"Do you know any individuals who sell cannabis different from a coffeeshop?"	0 = yes; 1 = no; 2 = don't know
			Have you ever purchased cannabis from the black market?	0 = yes; 1 = no; 2 = don't know
			"What are your motivations to purchase cannabis via the black market?"	0 = cheaper; 1 = better quality; 2 = more quantity; 3 = easier accessible; 4 = other; 5 = don't know
			"Are you able to purchase hard drugs from the illegal cannabis dealer?"	0 = yes; 1 = no; 2 = don't know

	Motivation	Enhancement	"I use cannabis to improve my pleasure"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Conformity	"I use cannabis to keep up with my friends"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Expansion	"I use cannabis to experiment with it"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Coping	"I use cannabis in order to deal with personal troubles"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Social	"I use cannabis to have more fun during social gatherings"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
	Routine activity theory	Motivated offender	"When I purchase cannabis of the black market, I do take the penalty of getting caught in consideration."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Suitable transaction	"I refrain from committing a transaction if I know	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree

		authorities are close by."	
	Absent guardian	"If surveillance is increased it will be less tempting to purchase cannabis from the black market."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		"If penalties are increased it will be less tempting to purchase cannabis from the black market."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree

9.1.2 Sub-question 2

Research question	Conceptualisation	Variables	Measurement	Answer
2. Which characteristics of legalisation on the bases of consumers should be implemented to keep students predominantly purchase state regulated	Consumer behaviour	Purchase	"I would change my cannabis purchases after cannabis is legalised"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Availability	"If both state regulated cannabis and black market cannabis are available, I	0 = state regulated cannabis; 1 = black market cannabis; 2 = no preference; 3 = don't know

cannabis in coffeeshops?			would rather purchase ... "	
		Accessibility	"I am willing to purchase cannabis of the black market when coffeeshops are closed at night"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
			"I would refrain from buying cannabis of state regulated coffeeshops if they would register my name."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		Price	"If the price of state regulated cannabis would be higher than black market cannabis, I would purchase ... "	0 = state regulated cannabis; 1 = black market cannabis

			How much more needs state regulated cannabis per gram to cost for you to purchase black market cannabis	Absolute number
		Potency	I choose my cannabis retailer on the THC level of their offered cannabis "	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
	"If imported weed is unavailable after legalisation I will ... "		0 = purchase it on the black market; 1 = purchase Dutch hashish from a state regulated coffeeshop; 2 = purchase Dutch weed from a state regulated coffeeshop; 3 = purchase imported hashish from a state regulated coffeeshop	
	"If imported hashish is unavailable after legalisation I will ... "		0 = purchase it on the black market; 1 = purchase Dutch hashish from a state regulated coffeeshop; 2 = purchase Dutch weed from a state regulated coffeeshop; 3 = purchase imported hashish from a state regulated coffeeshop	

			<p>"I am willing to pay more and make an extra effort to purchase cannabis which is not available in the state regulated coffeeshop. "</p>	<p>0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree</p>
		Retailer	<p>"I would generally prefer the coffeeshop over the black market."</p>	<p>0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree</p>

9.1.3 Sub-question 3

Research question	Conceptualisation	Variables	Measurement	Answer
3. To what extent will legalisation of cannabis evoke non-user students to purchase cannabis in coffeeshops?	Legal mechanisms on drug use	Availability	"After legalisation, I would be more curious about cannabis"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
			"After legalisation I would be tempted to purchase cannabis "	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree

		"I would trust state regulated cannabis over the current coffeeshop cannabis on the bases of quality."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
	Price	"If you wanted to try out cannabis one night and would purchase it from a coffeeshop, what is the maximum price you would pay for cannabis."	absolute number
		"The price of cannabis has ever withheld me from purchasing cannabis."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		"The person within my social environment whose opinion I value the most is/are ... "	0 = my family; 1 = my friends; 2 = my partner; 3 = others; 4 = no opinion/don't know
	Social control by environment	"This person's opinion on cannabis is ... "	0 = against use; 1 = not in favour; 2 = neutral; 3 = in favour; 4 = pro use; 5 = don't know
		"I think that this person's opinion on cannabis will change after legalisation ... "	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 =

			agree; 5 = strongly agree
		"Before legalisation, I would tell this person if I used cannabis."	0 = yes; 1 = probably; 2 = no; 3 = don't know
		"After legalisation, I would tell this person if I used cannabis."	0 = yes; 1 = probably; 2 = no; = 3 don't know
		"In my perception, Dutch society's perspective on cannabis legalisation is ..."	0 = heavily opposed; 1 = opposed; 2 = not opposed nor supported; 3 = supported; 4 = heavily supported; 5 = don't know
		"I would feel comfortable talking open about cannabis use"	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
		"I would feel comfortable purchasing cannabis in a coffeeshop."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree

		"If I would purchase cannabis, I hope that I do not come across someone I know."	0 = no opinion; 1 = strongly disagree ; 2 = disagree; 3 = neither disagree nor agree; 4 = agree; 5 = strongly agree
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9.2 Questionnaire

Cannabis legalisation

Start of Block: General questions

INTRO As you might know, the Dutch government has the intention to completely legalise cannabis and its sale. The legalisation of cannabis is different from the current toleration policy where only the sale of cannabis is allowed. This survey focusses on the users and non-users and how the legalisation will influence their behaviour on cannabis. The online survey will take approximately 5-10 minutes.

The survey is completely anonymous and contains information that will not personally identify individuals. Your participation in this survey is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or if you withdraw from participating at any time, you will not be penalized.

The results of this study will be used for scholarly purposes only.

Q1INT What is your age?

Q2_INT What is your gender?

Male (1)

Female (2)

Other (3)

Q3_INT What is your nationality?

Dutch (1)

German (2)

Other (3) _____

Q4_INT Which university do you attend?

Saxion University of Applied Sciences (1)

University of Twente (2)

Other (3)

Q5_INT Did you purchase cannabis in the last 12 months?

Yes (1)

No (2)

Q6_INT Do you have at least one coffeeshop in your municipality?

Yes (1)

No (2)

Don't know (3)

Display This Question:

If Do you have at least one coffeeshop in your municipality? = Yes

Q7_INT Are you aware of at least one location of a coffeeshop?

Yes (1)

No (2)

Page Break

End of Block: General questions

Start of Block: Cannabis users

Display This Question:

If Do you have at least one coffeeshop in your municipality? = Yes

Q8_UPL Please read the statement and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
The coffeeshop(s) within my municipality are close by to my home. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The coffeeshop(s) within my municipality has wide opening hours. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The coffeeshop(s) within my municipality can easily be reached. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9_UPL Which type of cannabis do you predominantly purchase?

- Dutch weed (1)
- Imported weed (2)
- Dutch hashish (3)
- Imported hashish (4)
- That varies (5)
- Don't know (6)

Q10_UPL Where do you purchase cannabis?

Note: street market is purchasing cannabis everywhere except in coffeeshops

- Coffeeshop only (1)
- Predominantly coffeeshop (2)
- Both coffeeshop and street market (3)
- Predominantly street market (4)
- Street market only (5)

Q11_UPL Do you know any individuals who sell cannabis apart from coffeeshops?

- Yes (1)
- No (2)

Q12_UPL Have you ever purchased cannabis apart from coffeeshops?

- Yes (1)
- No (2)
- Don't know (3)

Display This Question:

If Have you ever purchased cannabis apart from coffeeshops? = Yes

Q13_UPL What is your main motivation to purchase cannabis from the street market?

- Cheaper (1)
- Better quality (2)
- More quantity (3)
- Easier accessible (4)
- Other (5) _____

Display This Question:

If Have you ever purchased cannabis apart from coffeeshops? = Yes

Q14_UPL Are you able to purchase hard drugs from the illegal cannabis dealer?

- Yes (1)
- No (2)
- Don't know (3)

Q15_UPL Please read the statement and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I choose my cannabis retailer on the THC level of their offered cannabis (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16_UPL Please read the statement and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I use cannabis for my pleasure (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use cannabis to keep up with my friends (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use cannabis to experiment with it (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use cannabis in order to deal with personal mental troubles (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use cannabis to have more fun during social gatherings (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use cannabis for medicinal psychical purposes (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display This Question:

If Have you ever purchased cannabis apart from coffeeshops? = Yes

Q17_UPL Please read the statements on the street market and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I refrain from committing a transaction if I know police is close by. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I purchase cannabis of the street market, I do take the penalty of getting caught in consideration. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If surveillance is increased it will be less tempting to purchase cannabis from the street market. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If penalties are increased it will be less tempting to purchase cannabis from the street market. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page
Break

UAL These following questions presented concern cannabis purchasing after legalisation. The Dutch Government has the intention to legalise cannabis. After legalisation, licensed growers will produce cannabis for Dutch

coffeeshops who only will be allowed to sell cannabis from these licensed growers. The selling of illegal and imported cannabis will be prohibited.

Q18_UAL If both state regulated cannabis and black market cannabis are available, I would rather purchase ...

- State regulated cannabis (1)
- Black market cannabis (2)
- Don't know (3)

Q19_UAL At which price difference would you switch from state regulated cannabis to street market cannabis?

0 3 5 8 10 13 15 18 20 23 25

Price in Euro's (1)	
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Q20_UAL Please read the statements and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
If the THC level of cannabis is higher on the street than in state regulated coffeeshops I will purchase cannabis of the street market. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21_UAL Please read the statements and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I would change my cannabis purchases after cannabis is legalised (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I would be willing to purchase cannabis of the street market when state regulated coffeeshops are closed at night (2)

I would refrain from purchasing cannabis of state regulated coffeeshops if I was required to register my name as a member (3)

I would be willing to make an extra effort to purchase cannabis which is not available in the state regulated coffeeshop (4)

I would generally prefer the state regulated coffeeshop over the black market (5)

Q22_UAL If after legalisation imported weed would be unavailable I would ...

- Stop purchasing (5)
- Purchase it on the street market (1)
- Purchase Dutch weed from the state regulated coffeeshop (2)
- Purchase Dutch hashish from the state regulated coffeeshop (3)
- Don't know (4)

Q23_UAL If after legalisation imported hashish would be unavailable I would ...

- Purchase it on the black market (1)
- Purchase Dutch cannabis from the state regulated coffeeshop (2)
- Purchase Dutch hashish from the state regulated cannabis (3)
- Don't know (4)

Q24_UAL The people within my social environment whose opinion I value the most is/are ...

- My family (1)
- My partner (2)
- My friends (3)
- Others (4)
- Don't know (5)

Q25_UAL Please read the statements and indicate to what extent you agree with statements regarding your selected person.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
This person has a progressive stance on cannabis legalisation. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person's opinion will change after legalisation. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q26_UAL Please read the statements and indicate the probability

	Definitely not (1)	Probably not (2)	Probably (3)	Very probable (4)	Definitely (5)
In the current situation, I feel comfortable talking about my cannabis use with this person. (1)	<input type="radio"/>				
After legalisation, I would feel comfortable talking about my cannabis use with this person. (4)	<input type="radio"/>				

Q27_UAL What is the Dutch population's stance on cannabis legalisation according to you?

- Heavily conservative (1)
- Conservative (2)
- Neutral (3)
- Progressive (4)
- Heavily progressive (5)

Q28_UAL Please read the statements on after legalisation and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I feel comfortable talking about my cannabis use. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable purchasing cannabis in a coffeeshop. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I purchase cannabis, I hope that I do not come across someone I know. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to say no to friends when they offer cannabis. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Cannabis users

Start of Block: Non cannabis users

NAL These following questions presented concern cannabis purchasing after legalisation. The Dutch Government has the intention to legalise cannabis. After legalisation, licensed growers will produce cannabis for Dutch coffeeshops who only will be allowed to sell cannabis from these licensed growers. The selling of illegal and imported cannabis will be prohibited.

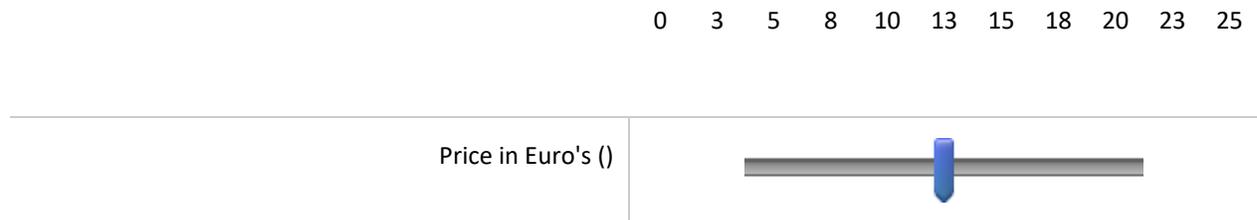
Q29_NAL Please read the statements and indicate what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
After legalisation, I would be more interested in purchasing cannabis than before legalisation. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would trust state regulated cannabis over the current coffeeshop cannabis on the bases of quality. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more tempted to purchase cannabis when there is a coffeeshop in my street. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30_NAL The price of cannabis has withheld me from purchasing cannabis

- Yes (1)
- No (2)
- Don't know (3)

Q31_NAL If you wanted to try out cannabis one night and would purchase it in a coffeeshop, what is the maximum price you would pay.



Q32_NAL The people within my social environment whose opinion I value the most is/are ...

- My family (1)
- My partner (2)
- My friends (3)
- Others (4)
- Don't know (5)

Q33_NAL Please read the statements and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
To my understanding, this person has a progressive stance on cannabis legalisation. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This person's opinion will change after legalisation. (1)

Q34_NAL Please read the statements and indicate the probability

	Definitely not (1)	Probably not (2)	Probably (3)	Very probably (4)	Definitely (5)
In the current situation, I would hesitate to tell this person if I used cannabis (1)	<input type="radio"/>				
After legalisation, I would hesitate to tell this person if I used cannabis (4)	<input type="radio"/>				

Q35_NAL What is the Dutch population's stance on cannabis legalisation according to you?

- Heavily conservative (1)
- Conservative (2)
- Neutral (3)
- Progressive (4)
- Heavily progressive (5)

Q36_NAL Please read the statements on after legalisation and indicate to what extent you agree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)

I would feel comfortable talking about cannabis use. (1)

End of Block: Non

I would feel comfortable purchasing cannabis in a coffeeshop. (2)

If I would purchase cannabis, I hope that I do not come across someone I know. (3)

I am able to say no to friends when they offer cannabis. (4)

cannabis users

9.3 Statistical tables

9.3.1 Chi-square test gender and user/non-user

Q2 What is your gender? * Identified user and non-users Crosstabulation

Count

		Identified user and non-users		Total
		Non-user	User	
Q2 What is your gender?	Male	23	17	40
	Female	20	3	23
Total		43	20	63

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5,848 ^a	1	,016		
Continuity Correction ^b	4,567	1	,033		
Likelihood Ratio	6,382	1	,012		
Fisher's Exact Test				,024	,014
Linear-by-Linear Association	5,755	1	,016		
N of Valid Cases	63				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 7,30.

b. Computed only for a 2x2 table

9.3.2 T-test age and user/non-user

Group Statistics

Identified user and non-users		N	Mean	Std. Deviation	Std. Error Mean
Q1 What is your age?	Non-user	43	19,86	2,722	0,415
	User	20	20,5	1,933	0,432

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Q1 What is your age?	Equal variances assumed	0,559	0,458	-0,944	61	0,349	-0,64	0,677	-1,994	0,715
	Equal variances not assumed			-1,067	50,696	0,291	-0,64	0,599	-1,843	0,564

When outliers removed

Group Statistics

Identified user and non-users		N	Mean	Std. Deviation	Std. Error Mean
Q1 What is your age?	Non-user	41	19,41	1,830	,286
	User	20	20,50	1,933	,432

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Q1 What is your age?	Equal variances assumed	0,107	0,745	-2,135	59	0,037	-1,085	0,508	-2,103	-0,068
	Equal variances not assumed			-2,095	35,977	0,043	-1,085	0,518	-2,136	-0,034

9.3.3 Spearman's rho Marijuana Motive Model

Correlations

			Q16_1 I use cannabis for my pleasure	Q16_2 I use cannabis to keep up with my friends	Q16_3 I use cannabis to experiment with it	Q16_4 I use cannabis in order to deal with personal mental troubles	Q16_5 I use cannabis to have more fun during social gatherings	Q16_6 I use cannabis for medicinal purposes
Spearman's rho	Q16_1 I use cannabis for my pleasure	Correlation Coefficient	1	0,033	0,081	-0,371	-0,188	-0,189
		Sig. (2-tailed)	.	0,891	0,735	0,107	0,427	0,426
		N	20	20	20	20	20	20
	Q16_2 I use cannabis	Correlation Coefficient	0,033	1	-0,095	0,111	,485	-0,386

to keep up with my friends	Sig. (2-tailed)	0,891	.	0,69	0,643	0,03	0,093
	N	20	20	20	20	20	20
Q16_3 I use cannabis to experiment with it	Correlation Coefficient	0,081	-0,095	1	0,252	0,008	0,292
	Sig. (2-tailed)	0,735	0,69	.	0,285	0,974	0,212
	N	20	20	20	20	20	20
Q16_4 I use cannabis in order to deal with personal mental troubles	Correlation Coefficient	-0,371	0,111	0,252	1	0,087	,543*
	Sig. (2-tailed)	0,107	0,643	0,285	.	0,715	0,013
	N	20	20	20	20	20	20
Q16_5 I use cannabis to have more fun during social gatherings	Correlation Coefficient	-0,188	,485*	0,008	0,087	1	-0,096
	Sig. (2-tailed)	0,427	0,03	0,974	0,715	.	0,689
	N	20	20	20	20	20	20
Q16_6 I use cannabis for medicinal purposes	Correlation Coefficient	-0,189	-0,386	0,292	,543*	-0,096	1
	Sig. (2-tailed)	0,426	0,093	0,212	0,013	0,689	.
	N	20	20	20	20	20	20

9.3.4 Paired sample t-test surveillance and penalties

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Q17_3 If surveillance is increased it will be less tempting to purchase cannabis from the street market. - Q17_4 If penalties are increased it will be less tempting to purchase cannabis from the street market.	-0,167	1,193	0,345	-0,925	0,592	-0,484	11	0,638

9.3.5 Paired sampled t-test

Group Statistics

	Identified user and non-users	N	Mean	Std. Deviation	Std. Error Mean
Combined Dutch stance on cannabis legalisation	Non-user	43	3,23	,922	,141
	User	20	3,65	,813	,182

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df				Lower	Upper
Combined Dutch stance on cannabis legalisation	Equal variances assumed	0,8	0,375	-1,735	61	0,088	-0,417	0,241	-0,899	0,064
	Equal variances not assumed			-1,817	41,766	0,076	-0,417	0,23	-0,881	0,046

9.3.6 Spearman rho's socialisation non-users vs users

			Q25_1 This person has a progressive stance on cannabis legalisation.	Q25_2 This person's opinion will change after legalisation.	Q26_1 In the current situation, I feel comfortable talking about my cannabis use with this person.	Q26_2 After legalisation, I would feel comfortable talking about my cannabis use with this person.
Spearman's rho	Q25_1 This person has a progressive stance on cannabis legalisation.	Correlation Coefficient	1	-0,144	,719**	0,336
		Sig. (2-tailed)	.	0,545	0	0,148
	N		20	20	20	20
	Q25_2 This person's opinion will change after legalisation.	Correlation Coefficient	-0,144	1	-0,194	-0,028
Sig. (2-tailed)		0,545	.	0,412	0,905	
N		20	20	20	20	

Q26_1 In the current situation, I feel comfortable talking about my cannabis use with this person.	Correlation Coefficient	,719**	-0,194	1	,630**
	Sig. (2-tailed)	0	0,412	.	0,003
	N	20	20	20	20
Q26_2 After legalisation, I would feel comfortable talking about my cannabis use with this person.	Correlation Coefficient	0,336	-0,028	,630**	1
	Sig. (2-tailed)	0,148	0,905	0,003	.
	N	20	20	20	20

		Q33_1 To my understanding, this person has a progressive stance on cannabis legalisation.	Q33_2 This person's opinion will change after legalisation.	Q34_1 In the current situation, I would hesitate to tell this person if I used cannabis	Q34_2 After legalisation, I would hesitate to tell this person if I used cannabis	
Spearman's rho	Q33_1 To my understanding, this person has a progressive stance on cannabis legalisation.	Correlation Coefficient	1	0,167	0,125	-0,031
		Sig. (2-tailed)	.	0,284	0,423	0,844
		N	43	43	43	43
	Q33_2 This person's opinion will change after legalisation.	Correlation Coefficient	0,167	1	0,217	,365*
		Sig. (2-tailed)	0,284	.	0,163	0,016
		N	43	43	43	43
	Q34_1 In the current situation, I would hesitate to tell this	Correlation Coefficient	0,125	0,217	1	,768**
		Sig. (2-tailed)	0,423	0,163	.	0

person if I used cannabis	N	43	43	43	43
Q34_2 After legalisation, I would hesitate to tell this person if I used cannabis	Correlation Coefficient	-0,031	,365*	,768**	1
	Sig. (2- tailed)	0,844	0,016	0	.
	N	43	43	43	