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Dedication

I want to sincerely thank everyone who made me the individual I am today. Many things are not conscious and visible for the human brain. I hope that through the empiric science, human kind can get a little closer to answering the questions of “How?” and “Why?”.

Спасибо an meine geliebte Familie, ihr seid mein Kern, von dem aus ich die Welt entdecke.

Die Frau, die mein Herz erobert hat, ich danke dir.

Danke meinen Freunden, die immer für mich da sind.

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Danke.

„Eine Bemerkung vorab: Ich möchte die Konsequenzen von legalen und illegalen Drogen nicht verharmlosen.

Beide können die Gesundheit und ganze Lebensläufe zerstören. Viele von uns kennen Menschen, die Probleme mit Drogen haben. Ich habe auf keinen Fall die Intention jemanden zu ermuntern, Drogen zu konsumieren. Meine Motive sind: Gemeinsam nach besseren Lösungen für den Umgang mit Drogen suchen. Ein Umgang, der auf empirischen Erkenntnissen und Pragmatismus beruht.“

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Introduction

What is a drug?

Drugs. Psychoactive drugs as illegal substances are a very controversial, often biased, misapprehended and mostly undiscovered topic with lots of interesting questions, which can lead to harm reduction and recovery of psychopathological and neurological-pathological symptoms.

What is a drug? According to the internet, the word “drug” is defined firstly as “a chemical substance used in the treatment, cure, prevention, or diagnosis of disease or used to otherwise enhance physical or mental well-being”. Secondly as “any substance recognized in the official pharmacopoeia or formulary of the nation, any substance intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in humans or other animals, any article, other than food, intended to affect the structure or any function of the body of humans or other animals and any substance intended for use as a component of such a drug, but not a device or part of a device”. Thirdly as “a habit-forming medicinal or illicit substance, especially a narcotic” and the word “drugs” firstly as “chemical substances prepared and sold as pharmaceutical items, either by prescription or over the counter or personal hygienic items sold in a drugstore, as toothpaste, mouthwash, etc.”. Secondly as “any ingredient used in chemistry, pharmacy, dyeing, or the like” (Dictionary.com Unabridged, 2017).

The British definitions for the word “drug” are “any synthetic, semisynthetic, or natural chemical substance used in the treatment, prevention, or for disease, or for other medical reasons related adjective pharmaceutical” or “a chemical substance, especially a narcotic, taken for the pleasant effects it produces” (Collins English Dictionary, 2012). It seems to be a word for a broad sector of things and meanings in the English language and it can be assumed that the word is used differently by different individuals and in slang definitions and phrases.

Notwithstanding, in diagnosis science, the accurate definition is “a chemical substance, especially one prescribed by a medical provider, that is used in the diagnosis, treatment, or prevention of a condition or disease. Drugs are prescribed for a limited amount of time, as for an acute infection, or on a regular basis for chronic disorders, such as hypertension”. Alternatively, as “a chemical substance such as a narcotic or a hallucinogen that affects the central nervous system and is used recreationally for perceived desirable effects on personality, perception, or behavior. Many recreational drugs are used illicitly and can be addictive” based on The American Heritage Science Dictionary (2002).

The words “drug” or “drugs” are defined as a psychoactive substance by the author in this thesis. Studying psychology, it occurred to me and some of my colleagues that the psychoactive substances are linked very negatively with many possible psychopathological aftereffects on the physical and psychic health of an individual. Humankind has always consumed psychoactive substances also including alcohol, but the scientific classification of Substance Use Disorders (SUDs) only began in the early 19th century (Robinson & Adinoff, 2016). The conclusion may be that there is a very complex relationship between the human individual, the human society and the psychoactive substances.

Today there are several government-sponsored anti-drug campaigns, which often provide more questions than answers. Short informative videos are produced which warn you that “the drugs” will definitely destroy your brain if you take them. Not much information is given to the human individual subject. Which “drug”, which psychoactive substance is shown? Is there only a destructive effect? How is this substance dosed? Unfortunately for many anti-drug campaigners, “drugs” were, in fact, a singular entity, which they are definitely not.

Before this negative paradigm, the word “drug” was not associated with death, villains and sudden addiction. The psychoactive substances were seen as medicine and were easily available at the local pharmacy or doctor. The French philosopher Jacques Derrida said 1989: “There are no drugs in nature...the concept of drugs is not a scientific concept, but is rather instituted on the basis of moral or political evaluation” (as cited in Seddon, 2016).

There is a historical context of different substances with different effects in medical and non-medical use and misuse as well. Some substances play a more significant role in history and in modern society and some a smaller one. It is also important to see the cultural, industrial and socio-political influence on this topic, which may have a great impact on the behavior of humankind referred to the substance use and the development of the American Psychiatric Association. In addition, there is a considerable impact on the treatment, the legal status/criminalization of substance users and substance use itself. These statements point out, that the understanding of “drugs” and each of the psychoactive substances is a multifactorial construct.

To point out the influences, a short description of the impact made by religion, culture and the industrialization on the attitudes and perceptions of substance use will be presented.

Hanson states (as cited in Robinson & Adinoff, 2016) that the Cristian religion provided both support for the consumption of wine and also warned against excessive use, which may be seen as a first prevention method. Over-indulgence was considered a sin. According to White (as cited in Robinson & Adinoff, 2016) the abuse of alcohol was increasingly condemned by society in colonial America. A strong movement came with the foundation of Alcoholics Anonymous founded in 1935 on the belief that alcoholism represented a medical disease worthy of professional attention and not societal enmity (Alcoholics Anonymous, cited in Robinson & Adinoff, 2016).

Today in modern society, it appears that people usually tend to think negatively about illegal psychoactive substances –drugs. But often, they do not really know why and may give standardised answers like “Because they are illegal” or “Because other people say they are bad”. So this may be a reason, why people do not talk about this topic often and do not talk about it objectively. “We do not talk about it, because it is illegal and this is why we do not talk about it” may be a vicious circle. This example shows how human thinking is shaped by the environment in which we are enmeshed in. Yorke (as cited in Robinson & Adinoff, 2016) shows examples how substance use was linked to cultural influence when opium was used and prescribed to women for the treatment of neuroses, hysteria, and hypochondriacal disorders in the Victorian age. It is no secret that famous humans used psychoactive substances like Sigmund Freud and cocaine (Rozan, 1987) or Aldous Huxley and mescaline and LSD (Huxley, 2004). Psychoactive substances seemed to be “normal” in society like methamphetamines or “Parvatin” during the Second World War (Defalque, Ray, & Wright, 2011). It became a popular stimulant for tired night workers and a recreational drug for young people until mid-1941 when it became a controlled substance.

According to Hanson (as cited in Robinson & Adinoff, 2016) the industrialization had a great impact on how human kind viewed psychoactive substance use: “The already negative view of excessive consumption became magnified as society came to rely heavily on individual personal characteristics incompatible with intoxication-namely productivity, reliability, and punctuality”. Consumers tended to be seen and marked as “addicts” and as an unproductive outcast. Davenport-Hines (2003) shows that with the industrialization the tight link between substance use and criminal behavior was created influenced by the economic concerns and industrial needs.

Consequently, the next important factor in the topic of psychoactive substance use is the question of legality and morality. Davenport-Hines (2003) writes that the drug use in the medical setting

with the use of narcotic medications like opium to treat wartime injuries was legal despite the growing moral intolerance of substance users. Therefore, the possession of psychoactive substances and “drugs” for non-medical use was not illegal or a criminal act until the 20th century (Earleywine, cited in Robinson & Adinoff, 2016). First laws were enacted in the 20th century, which criminalized the distribution of cocaine (Karch, cited in Robinson & Adinoff, 2016). Alcohol was prohibited in many countries for a time including Russia (1916–1917), Hungary (1919), Norway (1919–1927), Finland (1919–1932) and the United States (1920–1933) (Hanson, cited in Robinson & Adinoff, 2016). Since “The War on Drugs” was introduced by Richard Nixon in 1972, the use, distribution and possession of mostly all psychoactive substances called “drugs” is illegal. They earned their negative stigma in the Sixties, after which Nixon's Controlled Substances Act officially prohibited it. Seddon says that the main driver behind this act was more a practical one – to target the substances being used by members of society deemed social deviants at the time, specifically ethnic minorities and the lower classes. This is why some psychoactive substances were known as “drugs”, whose buyers and sellers were transformed into criminals, while alcohol and tobacco were still legal and big business (Seddon, 2016). There was a definite split between legal and illegal, good and evil, drug and non-drug.

On the other hand, this also applies to the research on illicit drugs and their possibly effects on psycho-pathological developments. It may be a current question, why psychoactive substances like caffeine, tobacco, and alcohol are legal and easy to get everywhere, and still have known possible crucial effects on our physical and psychic health. On the other hand, we do not know much about the potential positive effects of ketamine, LSD or ecstasy. Companies of the pharmaceutical industry might have no interest in the research of known psychoactive substances like psilocybin or LSD (Lysergic acid diethylamide) because they are already patented, and the research on a new pharmaceutical medicament is costly. Besides, the research on “drugs” is nearly impossible and very expensive, because of the government.

It is very challenging to do objective research on psychoactive substances. Every “trip” might be different by changing the set and the setting. Brain imaging studies have shown that psychedelics like MDMA and psilocybin have effects on neural activity. A higher state of consciousness and introspection might be possible for a patient. Some research suggests that some psychoactive substances have the potential to treat depression, anxiety, post-traumatic stress disorder, addiction and other mental health conditions. On the other hand, these substances, of course, also have

their side effects. It is evident that more studies and more research are needed to understand the effects on the human brain and the human psyche.

Drug Misuse – The Harm

This block aims to show the reader that the consumption of psychoactive substances is linked with risks to the psyche and physical health as well. According to Nutt, King, Saulsbury, and Blakemore (2007) drug misuse is one of the major social, legal, and public health challenges in the modern world as it relates to extremely high health, social, and crime-related costs for the state. It is incorrect to state that a psychoactive substance might be harmless. In their paper 2007, Nutt et al. present three main factors, which together determine the harm associated with any drug of potential abuse: the physical harm to the individual user caused by the drug; the tendency of the drug to induce dependence; and the effect of the drug use on families, communities, and society.

The physical harm stands for the damage to organs or systems as well as long-term health problems caused by a drug. Possible harms as an example are immediate effects of respiratory depression with opioids, acute cardiac crises with cocaine, and fatal poisonings. Chronic physical harm are possible health consequences of repeated use like psychosis after stimulants consumption, possible lung disease after smoking cannabis frequently. Specific negative effects are the spread of viruses like HIV or hepatitis after intravenous use.

The second important factor of harm stated by Nutt et al. (2015) is the risk of drugs producing psychological and physiological dependency behavior linked to the experienced pleasure of the consumer. This encourages repeated use. The physical dependence features increasing tolerance followed by the need of higher doses for the same effect, intense craving and withdrawal reactions like tremors, diarrhea, sweating, and sleeplessness after the end of the consumption. The factor of the psychological dependence also causes repeated use of the drug.

The third dimension proposed is the social factor. Illicit drugs might damage social structures like families and negatively influence the social life of the consumer and the human individuals in his/her environment. In addition, they bring costs to systems of health care, social care, and police.

The United Nations Office on Drugs and Crime states that the average yearly consumption of pure alcohol is around 6.2 liter per person worldwide and this misuse is responsible for 35 deaths per 100.000 people (2015). When it comes to illicit drug use then approximately four deaths per 100.000 people are linked to the misuse of illegal psychoactive substances per year, which are used by approximately 172 to 250 million human individuals worldwide. The other legal psy-

choactive drug – tobacco is responsible for around six million deaths per year (World Health Organization, 2011) and around 21% of adults globally are frequent consumers of this substance as stated by the World Health Organization in 2015.

Alcohol and tobacco are a popular stimulant in our society, and the bigger part associates them with positive feelings like vitality and sociability. Many consumers are not aware of the dangerous potential for addiction, which these stimulants possess. Especially the consumption of alcohol is underestimated (Noack & Weber, 2001).

Nutt et al. see no clear distinction between socially acceptable and illicit substances. This is surely an important information that should be taken into account in public debate on illegal drug use. Discussions based on a formal assessment of harm rather than on prejudice and assumptions might help society to engage in a more rational debate about the relative risks and harms of drugs (2007).

In a more recent study Nutt, King, & Phillips aimed to model a range of potential drug risks in the UK (2010). The findings showed that heroin, crack cocaine, and methamphetamine were the most harmful drugs to individuals, whereas alcohol, heroin, and crack cocaine were the most harmful to others Overall, alcohol was the most harmful drug with heroin and crack cocaine in second and third places.

Psychoactive substance consumption in numbers

The long history of drug-prevention cannot change the fact that people still take illegal drugs. There are two major data reports about drug consumption: The Country Drug Report 2017 made by The European Monitoring Centre for Drugs and the Global Drug Survey 2017.

This block will focus on Austria regarding this topic.

The Country Drug Report 2017 for Austria (EMCDDA, 2017) shows the overview of the drug phenomenon in Austria, covering drug supply, use, and public health problems as well as drug policy and responses. The statistical data relates to the year 2015 (or most recent year) and is provided to the EMCDDA by the national focal point. Data presented here are either national estimates (prevalence of use, opioid drug users) or reported numbers through the EMCDDA indicators (treatment clients, syringes, deaths and HIV diagnosis, drug law offenses and seizures). The report presents a number of 14.1% cannabis consumers in young adults (15-34 years) in the last year with 12.7% female and 15.5% male. Other notable drugs used were MDMA (1.1%), amphetamines (0.9%) and cocaine (0.4%). 31473 people are estimated to be high-risk opioid users and there were 17599 clients in the opioid substitution treatment. Treatment entrants are lead by heroin (45%) followed by cannabis (29%) and cocaine (7%). The number of deaths due to overdoses rose by 153 compared to the year 2014.

The next interesting data provider is the Global Drug Survey 2017. GDS is an independent global drug use data exchange hub that conducts university ethics approved, anonymous online surveys comprised by experts. Although it may not be optimal for national estimates and not perfectly representative, it may show diverse health outcome associated with the use of drugs and alcohol across the population of a country and provide current data on the patterns of use, risks, health, and well-being experienced by drug users. A total of 115523 people from over 50 countries participated in GDS2017 with 4.800 human individuals from Austria. Interesting findings are that 6% of all individuals who stated to have consumed illegal drugs last year purchased the substances through the darknet in the last 12 months. Some participants stated that they encountered less police detection dogs in Austria than in other states. As for the consumption during the past 12 months, 95% of participants consumed alcohol, approximately two-thirds used illegal drugs and four out of five tried them once in their life. The participants in Austria stated that the consumption of high-proof alcohol made them feel more energetic and self-confident while beer or wine makes them feel more relaxed. In contrast to other states, consumption of alcohol is not

that high in Austria, but still 21% of male and 19% of female participants show problematic behavior in this sector. Every fifth Austrian stated having had experience with cannabis. Four percent of the Austrian participants told the GDS last year that they consume cocaine at least once a week and not less than half a gram. This data from the GDS is presented in this block because the sample is younger with a mean of 29 years in Austria and the methods of the survey are more similar to my questionnaire being a voluntary online method.

Prevention of Drug Misuse

As mentioned, no drug is harmless. This counts for legal drugs such as alcohol and tobacco as well as for prohibited substances. The best way to protect yourself is to be abstinent, to take nothing. The individual human being should be responsible and reasonable. Nevertheless, many people decide to take the risk.

The definition of the “legal drug” means, that the consumption, trade and possession are legal when a person has reached a specific age. However, legal drugs are still to be rated as dangerous as “illegal drugs” because of their defective consequences. Every kind of drug can cause psychic and/or physical addiction and put the person and society at risk. All legal and illegal drugs meet the primary criteria for addiction, an immense and obsessive consumption, psychoactive effects and drug-boosting effects. In addition, there are secondary criteria like the development of tolerance, physical obsession, a relapse after an abstinence and craving for the drug. The reasons for the consumption vary and depend on different factors like age, sex and the socioeconomic status.

In Austria, we can observe double moral standards regarding the legal drugs. Adults are allowed to drink and to smoke while the juveniles are not and an abstinence is expected. Nevertheless, many young Austrians do not accept this rule and this could lead to problematic consumption behavior (Currie et al., 2004). Especially the alcohol consumption in Austria is being tolerated, but an excessive consumption is refused (Schmidt, 1997). For a preventive program, it is important that a full abstinence is not totally accepted in the society and that alcohol plays an important integrative and ritualized role in the Austrian culture (Silbereisen & Kastner, 1985).

Consequently, addiction prevention is a major public health problem, because the consumption of psychoactive substances is a world public health concern.

Fengler (2002) says that the drug abuse behavior is socially determined: social subgroups and age groups can boost it. Some individuals get addicted, some do not. He promotes the prevention of the development of the addiction, not the drug abuse only. The setting and the circumstances can lead to dangerous substance abuse and this can lead to an addiction. Drug abuse is very individual. Böllinger (1995, as quoted in Fengler, 2002) promoted a life with self-responsible drug abuse, but the same drug can have different effects on individual brains.

Three possible strategies of prevention:

Primary prevention: All actions to prevent the development of addictions are a factor of the primary prevention. The American National Institute for Drug Addiction promotes aspects like enhancement of safety factors to reduce risk factors, prevention of any drug abuse, skill development of rejection of drug-offers.

Secondary prevention: Methods to shorten the addiction-development like an early diagnosis and a working therapy. Addictions occur mostly during adolescence, so preventive actions are important here.

Tertiary prevention: How to live with the addiction. Here you focus on minimising the negative consequences and impairments of the addiction.

This thesis focuss more on the primary and the secondary prevention. The prevention program should not be “school-like” ideological. The role models of important and well-known personalities or personal heroes like teachers, parents, stars tend to be more important than public prevention programs and have a greater impact and influence.

Starting Point for Drug Prevention

Generally speaking, epidemiological studies show that the first regular substance abuse and consumption of cigarettes occur between the ages of 13 and 18. The diagnoses for alcohol abuse and addiction increase with 15 to 18 years of age. The most risky age to try cannabis for the first time is from 16 to 18 years. The substance use of illegal drugs gets higher from 16 years. The use of cocaine and opiates gets more frequent with 18 (cocaine) and 22 (opiates) years (Wittchen & Nelson, 1998). Young people tend to abuse the substances to escape or to retreat from their development and actual problems (Nordlohne, 1992, quoted in Fengler, 2002). Still the presence of drugs is limited for the young individuals and they are not that easy to get (Moffitt, 1993, quoted in Fengler, 2002). Most of the young individuals manage their development tasks without drug abuse, but others tend to consume alcohol, cannabis, cigarettes and other drugs. The characteristics of the individuals and can increase the tendency towards drug abuse (Petratis et al., 1995, quoted in Fengler, 2002). A young man with a positive attitude towards alcohol, who drinks often with his peer-group and lives in a country, where alcohol drinking is normal for adults tends to have a higher risk of alcohol abuse (Hawkins et al., 1992, quoted in Fengler, 2002). In contrast, there are safety factors like a distinct self-assurance or the positive role-model of the parents. Also, prohibiting the advertisement of alcohol in television seems to have a positive impact. Other preventing factors are emotional support from parents, positive career chances and success at school and tend to decrease the chance of drug abuse. In contrast, a high impulsivity, high criminality rate in the neighborhood and the divorce of the parents tend to increase it (Petratis, 1998, as quoted in Fengler, 2002). It is interesting, that proximal factors like the expectation of the effect of the drug, the feeling of the deprivation symptoms and a friendly help to refuse the drug offer tend to have greater effects than distal factors like the attitude towards drugs from the society. Optimal prevention has to focus on giving established information and knowledge about the substances and a critical attitude towards their abuse should be the result. In addition, protective strategies and skills have to be learned and taught.

The limitation of the drugs in the television, on the street through less cigarette machines and a higher price for them have an impact and people decrease their abuse (Hawkins et al., 1992; Nutbeam, 1999, as quoted in Fengler, 2002). However, the government trying to criminalize illegal drugs does not decrease their availability or price (Hawkins et al., 1992, as quoted in Fengler, 2002).

“No power to the drugs” is the most known addiction prevention program in the media in Germany (Schumann et al., 1994, quoted in Fengler, 2002). It aimed to decrease illegal drug abuse

through TV spots and posters on the streets. The evaluation showed that positive resonance with a lot of people and good reach. But still, it had no real significant impact on consumption levels. The target were the juveniles with an affinity to substance abuse and they were not effectively approached. It had no significant impact on the attitudes toward drugs. If anything, substance became even more problematized (Künzel-Böhmer et al., 1993, quoted in Fengler, 2002).

Evaluations show that prohibition and deterring content as a preventive program is very questionable and tends to have no positive effects (Künzel-Böhmer et al., 1993, quoted in Fengler, 2002).

Risk and prevention factors for the development of addictions are defined. Brook et al. (1995, quoted in Fengler, 2002) conducted an empiric study which postulated sensation seeking, deviant behavior, contact with the police, impulsivity, recusancy and deception as risk factors. Preventive factors were shown: refusal of deviant behavior, feeling guilt, going to church, responsibility.

Overall, you could say that in the majority of countries, Austria included, the concepts of drug-use prevention have still not been evaluated thoroughly enough. In addition, the existing concepts use techniques which could have counterproductive effects. The expertise for the prevention of the use of illegal substances by Bühler and Kröger (2006) is based almost entirely on US-American studies, which are not always representative in the European context (EBDD, 2008).

Christoph Lagemann (2015) criticizes the addiction prevention programs in Austria as he states that this so-called “enlightenment” is not working with balanced and factual information like it is usual in other topics. In hope to shock the youths sustainably, the effects and the description of the substances are exaggerated. Wrong information is also used. It is hardly possible for interested people to get serious information. Flyers and brochures are produced in Austria based on the American standards with lies about the drugs. It is even dangerous to speak in an informative way about the drugs, because it is juridically prohibited as an advertisement and a minimization (§ 29 Suchtmittelgesetz Österreich).

It is interesting for this study that empirical research already showed us in the 70s that a negative kind of advertisement can also be a form of advertisement (DeHaes & Schumann, 1975) and

after a lecture about drugs at school the interest on drugs increased nearly two-fold (Munro, 1997).

The focus of the government-run efforts to face the illegal drug problem is still based on repression and not on prevention. The idea is “to erase the problem” and remains the UN-drug-strategy today (EMCDDA, 2009).

The field of addiction prevention is interesting, because it is a very young field in Austria and exists only for about 20 years (Lagemann, 2015).

So is the answer to tell the drug consumers how to decrease the risks and side effects?

Is this not already a call for consumption? Do these tips not lead people to try and to take drugs?

Current Empirical Studies on Drug Prevention

However, prevention efforts have not always been promising. Scientific research demonstrates that the first generation of drug prevention programs such as information dissemination (stating facts about drugs), affective education (clarifying values and/or increasing self-esteem), and alternative activities to drug use tend to have little or no impact on deterring adolescent drug use (Berberin et al. 1976, as cited in Harmon, 1993; Kinder, Pape, and Walfish, 1980, as cited in Harmon, 1993). In contrast, some of these programs are associated with an increase in drug use (Gordon and McAlister, 1982, as cited in Harmon, 1993; Swisher and Hoffman, 1975, as cited in Harmon, 1993).

The second generation of drug prevention efforts has proven to be more effective in reducing adolescent drug use. These methods include programs that focus on increasing general personal and social skills such as problem solving, decision making, coping, resisting peer pressure, and assertiveness through skill acquisition (Botvin and Dusenbury, 1987, as cited in Harmon, 1993; Schinke and Gilchrist, 1985, as cited in Harmon, 1993).

Drug prevention research shows that the more interactive there is in an anti-drug program, the more likely a student will be prevented from using a licit substance. Tobler et al. (2000) reported that student involvement in the delivery of a program is associated with improved efficacy of drug prevention programs. They (Tobler et al., 2000) also reported significant positive effects on self-reported licit and illicit drug use for approaches involving interactive teaching methods, such as social influence and competency enhancement. Conversely, variants of non-interactive programs, such as knowledge dissemination (providing educational material on the harmful effects of drugs) and affective education (teaching students about the relationship between emotions and drug use and which coping-strategies may help to keep emotions in check) were not found to have significant effects on drug use. Many reviews have corroborated these findings (Soole, Mazerolle, & Rombouts, 2008).

Botvin & Griffin (2007) argue that universal programs are more effective when implemented earlier in the developmental cycle, before licit drug use becomes severe and that selective or indicated programs are generally more effective later, when licit drug use has already been identified. In addition, a number of reviews have suggested that while younger children may benefit from multi drug-focused programs, older children and adolescents may benefit more from programs that target a single drug (Botvin & Griffin, 2007).

Tobler and her colleagues (Tobler, Lessard, Marshall, Ochshorn, & Roona, 1999) reviewed 37 evaluated anti-drug programs published between 1978 and 1991 and found interactive programs that cultivated social competencies to be significantly more effective than non-interactive programs in reducing marijuana use or delaying first-time use. Interactive programs were also found to affect significantly and positively a change in attitudes. Of the interactive programs, the most effective were those led by mental health counsellors (Tobler, Lessard, Marshall, Ochshorn, & Roona, 1999).

Around half of the asked sample of young people asked about their experiences with binge drinking said they knew about the health hazards through excessive drinking. The knowledge does not prevent problematic consumption of alcohol (Greca, 2008).

There is a lack of evaluation studies of prevention programs for drugs (Quensel, 2010). States keep using programs with questionable quality and functioning. In addition, the programs with concepts that are proven to be successful have to wait for their use, because of political barriers and bureaucracy (Tobler, 2001).

A study about the effects of alcohol advertising shows a massive success (Bundesministerium für Gesundheit, 2006). The marketing strategies work very well on young individuals. They can develop wrong expectations towards alcohol consumption (Bundesministerium für Gesundheit, 2002).

Singular actions in the prevention like providing of information and scare campaigns tend to only have short-term effects and influence on knowledge and short termed attitudes, but no long termed effects in schools. The pupils could recite all the gained information about excessive alcohol consume, smoking and drug abuse, but this knowledge tends not to have an impact on their behavior. At worst, this providing of information can arouse the curiosity of the pupils to try something new (Greca, 2008).

Recently the prevention programs trying give the pupils competences and life skills tend to have positive effects and increase and/or provide self-confidence, realistic estimate of ones own strengths and weaknesses, communication and cooperation attendance, empathy, frustration tolerance and other. In addition, a distanced attitude, rejection of consumption offers and the delay of the first consumption (Reese & Silbereisen, 2002).

The information exchange tends to have a positive impact on the knowledge about the substances, their effect and the consequences of the consumption. Its effectiveness on the attitude and behavior are not sure through empirical studies: the tendency goes to a negative effect, in some cases there was a small positive effect (Greca, 2008).

The government wants to give information about the negative impacts of the consumption of legal and illegal drugs and wants to have a positive effect on the behavior and the attitude against drug abuse through brochures, information events, TV-shows, posters etc. Still, the success is controversial. Information about health damaging effects of drugs neither prevents from the entry point nor accelerates the exit. „Research has shown this approach has not had the desired effect in drug education. Moreover, this risk focus has increasingly lead to harmful educational practices ...“(Bernard, 2000).

Already in 1931 (as cited in Beck, 1998), Payne states that the proposed introduction of narcotic education into public schools, like sex education, raises some questions which are not easy to answer. Besides, one of the most serious of these is the reputed danger of stimulating the curiosity and adventure interest of the child through emphasizing either negatively or positively the unusual effects of drugs upon both mind and body.

Non-interactive prevention programs that induce drug knowledge show small effects on drug prevention in a school-based adolescent drug prevention program meta analysis in the year 1998 (Tobler, Roona, Ochshorn, Marshall, Streke, & Stackpole, 1998). The knowledge-only programs simply provide knowledge about the long-term physical and psychological effects of drug use.

An analysis of mass media by the World Health Organization specifically for the prevention of psychoactive substance use with 13 review papers concluded, that the use of mass media alone, particularly in the presence of other countervailing influences such as pro-drug club culture, pro-drug music, drug-using role models, and exposure to images of drug use, was not an effective way to reduce psychoactive substance use. Although media campaigns in some cases were capable of raising awareness of the negative consequences of use (Hawks, Scott, McBride, Jones, Stockwell, & World Health Organization, 2002).

In addition to the WHO review, a large-scale study reported an evaluation of the US National Youth Anti-Drug Media Campaign (1993-2003), which included television, radio, and other ad-

vertising media complemented by public relations efforts including community outreach and institutional partnerships. The campaign addresses young people, their parents and other adults, who were encouraged to control youth access to drugs. In addition, the final year of the program included a specific marijuana initiative. The evaluation showed no effects on youth drug use, neither for the specific marijuana initiative nor for the campaign as a whole, despite achieving significant exposure of youth campaign messages. The campaign could not delay the onset of drug use (Orwin et al., 2006).

Unfortunately, prevention programs do not necessarily distinguish between young people who have already started using drugs and those who have not. Often, universal interventions and prevention programs are produced which are aimed at the general population (Rose, 1992). There is evidence from reviews (Gates, McCambridge, Smith, & Foxcroft, 2006) that universal interventions may affect initiation of drug use. Other studies show that universal programs may be most effective for young people who have not already initiated drug use (Ellickson, Bell, & McGuigan, 1993). Still, these programs may have little or no impact on those who are at most risk because they have already initiated drug use.

Use of Fear-Appeals

The use of fear-appeal-messages is used in campaigns for disease prevention and health promotion to reduce the unrealistic optimism regarding the risks, persuading the control of behavior and to make risks more memorable (Lench & Levine, 2005). In their study they showed that fear tends to reduce the unrealistic optimism and the stronger the fear is induced the less the subjective control about the outcome was felt. It implements that with the fear the self-efficacy tends to sink. The fear leads to worse memory performance. The lower the optimism and the subjective feeling of control, the worse the memory performance was shown. As a conclusion the more the preventive programs work with fear appeals, the less the subjective feeling of control is felt and the aimed behavior is not initiated. In addition, the health-relevant information is less memorable with the induced fear. Also, the estimated threat and risks are influenced. Milner (2000) suggest that fear appeals just motivate when combined with coping competence promotion.

Fear appeals on packages of cigarettes “smoking can be deadly” and “who stops smoking decreases the risk of deadly heart- and lung disease” can both provide the awareness of threat. The second promotes the cognition that with stopping smoking the life expectancy can be increased. This expectation contains that the action results in an outcome. The perceived self-efficacy is missed with these appeals, which is an important factor for the competence of coping (Lippke & Renneberg, 2006).

Horror-prevention-programs that work with fear just tend to have short effects in other empiric studies, if they even work. On the other hand, they give wrong beliefs and false information, which can lead to no real knowledge at risks being provided. This could lead to real risks for the people. Also, the horror-prevention does not seem trustworthy for the people and tends to have no actuality (Quensel, 2010).

Sensation Seeking

This phenomenon and later variable of the unconditional seeking of intense and new stimuli was first mentioned by the psychologist Marvin Zuckerman.

By definition, sensation seeking is “the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experience” (Zuckerman, 1979).

Sensation seeking positively correlates with participation in high-risk behaviors (Zuckerman, 1979), with high sensation-seekers more likely than low sensation-seekers to participate in arousing and sensory stimulating activities such as with sex, drugs, alcohol, smoking, and eating; and to a more intense level than low sensation-seekers. Arnett (1996) found that among high school and college students, sensation seeking significantly related to sexual behavior, drug use, reckless automobile driving, and theft and vandalism. The Sensation Seeking Scale (Zuckerman, 1979) was found to discriminate between those who do not and those who do use drugs (Segal & Singer, 1976). Indeed, sensation seeking has been linked with the initiation of substance abuse, but interestingly not always associated with the development of stimulant dependence. In addition, relatively low levels of sensation seeking behavior may provide a protective factor from initial exposure to illegal psychoactive substances (Ersche, Turton, Pradhan, Bullmore, & Robbins, 2010).

The instrument used in this research to measure the variable sensation seeking is “Sensation Seeking Scale” (SSS-V), which correlates to drug use. This means that participants scoring higher in this instrument tend to use more illegal psychoactive substances (Andrucci, Archer, Pancoast, & Gordon, 1989). Also, drug users tend to have an increased SSS-V score. The sensation seekers take the physical, legal, and social risks by using illegal drugs (Zuckerman, 1983). Especially the disinhibition subscale seems to make a difference, which overlaps with the loss of control component of impulsivity (Ersche, Turton, Pradhan, Bullmore, & Robbins, 2010).

According to the literature, under-responsiveness to natural rewards and the need for greater stimulation have been suggested to motivate illegal drug use (Goldstein & Volkow, 2002).

Dubey & Arora state in their research, that individuals scoring higher in sensation seeking tend to consume more than one psychoactive substance at once (2008). Therefore, individuals scoring lower in sensation seeking tend to consume less or only one substance at once.

Narcissism

Narcissism itself is a very old psychological construct and there is a popularization of this word, psychopathological diagnosis and definition in our language. According to Twenge (2006, as cited in Carter, Johnson, Exline, Post, & Pagano, 2012) the increased rate of substance dependency disorders in American adolescents coincides with the proposed trend of an increased sense of grandiosity and entitlement in the current century. Twenge and colleagues showed 2008 (as cited in Carter et al., 2012) an increase of narcissists in American college samples. Narcissism tends to have significant negative consequences so the construct is important to examine. High levels of narcissism have been linked to sensation seeking (Miller et al., 2009) and an increased risk for developing substance use disorder or high rates of drug use which remain stable into adulthood (Barry et al., 2009). The drug use includes high cooccurrence rates of the Narcissistic Personality Disorder (NPD) with substance and alcohol abuse and dependence. Moreover, longitudinal studies have shown that NPD in adolescents could be a predictor of subsequent substance use disorder (Cohen, Chen, Crawford, Brook, & Gordon, 2007, as cited in Bruno et al., 2014)

Many of the modern theories on narcissistic pathology and ego psychology postulate that the use of drugs as psychoactive substances is linked directly to narcissistic disturbances (Acker, 2002; Tiebout, 1949, 1953, 1961, as cited in Carter et al., 2012). Human individuals with higher narcissistic personalities could use alcohol or drugs to gain the pathological grandiose self, assure its omnipotence, and provide protection against a potentially frustrating and hostile environment in which gratification and admiration are not forthcoming. In current studies, psychologists have hypothesized that the narcissism and addiction link results from a pattern of yielding to inner urges in a way that proves costly and self-destructive (Baumeister & Vohs, 2001, as quoted in Carter et al., 2012). Other theories say that addiction may become the determinant of the values and models of the human individual (Kohut, 1971, as quoted in Carter et al., 2012). Furthermore, the psychoactive substances could become a surrogate ideal or a substitute value which ideally would be supplied by an internal sense of meaning, goal-directedness, and value orientation. With the addiction, the individuals goals become external and he or she tends to reach the pleasure with the help of illicit substances. This may lead to a predominantly self-serving lifestyle of drug-seeking behaviors according to Wurmser (1974, as cited in Carter et al., 2012).

Moreover, men tend to have slightly higher mean levels of narcissism measured with the NPI in the literature (Ames, Rose, & Anderson, 2006).

The difference between the sex or between the genders

According to Fausto-Sterling (2012, as cited in Becker, McClellan, & Glover Reed, 2017) gender is defined as a system of social organization with a set of behavioral prescriptions that are believed to follow from biological sex characteristics. These perceptions of gender are socially constructed and shaped by sociocultural structures and processes over time. Researchers in the social and natural sciences have demonstrated that addictions and consequences of addictions differ by biological sex and by gender (Becker et al., 2016).

In this work, “sex” is used as a biological factor for gender and as a variable.

Men and women consume the same drugs, but not always in the same ways (UNODC, 2013).

The male sex tends to use the psychoactive substances significantly more often than the female. This counts for the legal drugs as well as for the illegal ones. Alcohol, cannabis or cocaine, the majority is always male. Many factors tend to explain this dangerous behavior.

The neuroscience says that the evolution made the men to “hunters” while the women cared for the children. This adjustment process provided different behaviors and attitudes (Fattore, Melis, Fadda, & Fratta, 2014).

Interestingly the literature states that Male participants tend to score significantly higher than females in sensation seeking as well as on the total SSS-V score, as well as on three of the subscales: BS, ES, and TAS (Rosenblitt, Soler, Johnson, & Quadagno, 2001). It is also known that risky behaviors like drug use are increasing, and the personality trait of sensation seeking can provide a potential link between such norm-breaking behaviors.

On the other hand, women tend to become addicted faster than men when they consume psychoactive substances. This is a phenomenon and is called “the telescoping-effect”.

In addition significant gender differences have been reported in the initiation of drug use, reasons for continuing to use the drug as well as in the resumption of drug taking after periods of abstinence, which remains an unmet clinical need for addiction. According to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), women are more likely than men to abuse prescribed drugs, like tranquilizers and sedatives, while men are more likely to abuse illicit drugs, such as cocaine and heroin (EMCDDA, 2005).

Becker, McClellan and Glover Reed (2012) state, that when social policy allowed free access to drugs of abuse, women resulted more likely to increase frequency of use, while when restrictions were applied, women reduced drug intake. This factor may explain why over 70% of all the addicted individuals with more-or-less legal drugs like tranquilizers or benzodiazepines are female. The availability of a drug on the legal market is a very important factor for women. The illegality may be a protective factor and a reason why many women decide not to consume psychoactive substances. As men tend to be more impulsive and sensation seeking, this can be why they tend to consume “illegal drugs” more often than women.

Benzodiazepines, also called tranquilizers, are psychotropic drugs with an anxiolytic and relaxing effect. In Austria and Germany, individuals may get them easily with a recipe from a doctor or a psychiatrist. Still, these “legal drugs” have a risk of addiction. It can be easier to abuse this kind of psychoactive substance, because it is not that hard to obtain.

Also, women tend to get the diagnosis of psychopathological illnesses more often – depressions, anxiety disorders, or chronic pains. This may explain why the female sex tends to misuse the legal drugs and get the “legal drug dependency”. Men might try to find a solution with alcohol, while women try to find it with medicine. It is very difficult to state when an individual becomes addicted to drugs like tranquilizers (Glaeske, 2006).

Cannabis – a gateway drug?

In the news, in society and in literature it is highly discussed if cannabis/marihuana (or hashish is a gateway drug for other, more harmful, illegal psychoactive substances. The Gateway Hypothesis describes a developmental process of involvement with drugs in the general population in which certain drugs serve as a gateway for the use of other substances in a specific temporal sequence (Kandel & Kandel, 2015).

Mostly, the consumers start drinking alcohol and smoking tobacco before they start consuming cannabis. In Western culture, psychoactive substance usage starts with a legal drug and proceeds to illegal drugs. Kandel & Kandel state 2015 that the use of tobacco or alcohol precedes the use of marijuana, which in turn precedes the use of cocaine and other illicit substances.

Furthermore, Degenhardt and Hall (2015) showed a significant association between the use of alcohol and tobacco with cannabis use in nearly all researched countries, and between cannabis and other illicit drugs in all researched countries. But still, entry into a lower stage drug does not always leads to a higher stage drug, which tends to be more harmful. In addition, the Gateway Hypothesis addresses developmental patterns of initiation of the use of different drugs. It does not directly address the development of dependence on these drugs.

The consumption of cannabis tends to correlate with a higher chance to produce psychotic symptoms and the younger the individual was when he or she consumed, the higher the chance (Moore et al., 2007). Ron De Graaf and his colleagues postulated 2007 that younger consumers of cannabis also have a greater risk of depressive symptoms and major depression. In addition, the literature states that approx. ten percent of all cannabis consumers become highly addicted, but this highly correlates with a younger start. This may be a factor, why every sixth cannabis consumer develops addictive behavior when he or she started at a young age (Patton, Coffey, Carlin, Degenhardt, Lynskey, & Hall, 2002).

This research does not intend to make clear statements or argue for or against the legalization of cannabis due to this being a highly complicated topic.

Tobacco – a gateway drug?

The gateway-hypothesis is unproven, but the literature and the academic research provides significant information and evidence that tobacco/nicotine may be “the door-opener” for cocaine. Volkow states that there is consistent evidence, that tobacco/nicotine use precedes marijuana use. In addition, very early experimentation with cigarettes increases the likelihood of further experimentation with marijuana and then with other drugs (2011).

Levine et al. (2011) worked with mice in their research and found out that pretreatment of mice with nicotine increased the response to cocaine, as assessed by addiction-related behaviors and synaptic plasticity in the striatum, a brain region critical for addiction-related reward. Interestingly, the responses to cocaine were altered only when nicotine was administered first, and nicotine and cocaine were then administered concurrently. On the other hand, there was no reverse effect, so cocaine had no effect on nicotine-induced behaviours and synaptic plasticity.

Furthermore, the scientists analyzed the epidemiological data and found out, that most cocaine consumers initiate cocaine use after the onset of smoking and while actively still smoking, and that initiating cocaine use after smoking increases the risk of becoming dependent on cocaine. These findings are consistent with the data presented through the mice-studies before. If the research on mice can be applied to humans, a decrease in smoking rates in young people would be expected to lead to a decrease in cocaine addiction.

These findings are crucial for prevention research as the scientists concentrated on cannabis as the “gateway-drug” before. In addition, the reduction of nicotine consumption in the population may not only provide a healthier population, but also reduce the consumption of illegal psychoactive substances as well.

Poly-drug use – more the rule than the exception?

How are psychoactive substances consumed? Do the users tend to consume a drug alone or do they tend to mix it with others? Using more than one drug at a time is known as poly-drug use. This intensifies the effects of any individual drug and makes them more dangerous. For the consumer it is nearly impossible to understand the risks of combining different psychoactive substances.

Midanik, Tam, & Weisner state that the combination of psychoactive drugs has numerous health implications (2007, as cited in Kelly, Wells, Pawson, LeClair, & Parsons, 2014). Poly-drug use has been linked to increased levels of intoxication and a greater likelihood of overdose. Moreover the academic literature states that poly-drug use has significant negative physical and psychological effects on human individuals including drug dependence (Leri, Bruneau, & Stewart, 2003, as cited in Kelly et al., 2014), decreased cognitive functioning (Dillon, Copeland, & Jansen, 2003, as cited in Kelly et al., 2014), and psychiatric comorbidity (Lynskey et al., 2006, as cited in Kelly et al., 2014)

Tossmann, Boldt, & Tensil found in their study that central characteristic of the drug use could be described as the poly-drug occasional user model characterised by the occasional use of diverse substances that are usually taken together (2001). Especially the ecstasy/MDMA-users tend to take additional psychoactive substances when they consume ecstasy/MDMA as 92% of 1.600 ecstasy/MDMA-users answered that they have consumed at least one additional substance during their last use, as presented in the study. Mostly, it was cannabis and alcohol, but speed/amphetamines, cocaine or hallucinogens as well.

Poly-drug use is more dangerous and uncontrollable for the consumers. Even the use of only one substance would be safer for the consumer. It is inevitable for the prevention not to focus on this factor.

Underestimated consumption

The author of this work worked with patients who were suffering from addiction in the Anton Proksch Institute in Vienna. Many of the patients communicated that they were always underestimating their consumption and the total quantity of the psychoactive substances they have taken regularly. This study aims to work as a preventive action as well as letting the participants reflect on their consumption. It is the first step to see and to accept that they might be using too much and that professional help is needed. This may also provide the willingness to change.

Purpose of the study

There is a great need of empirical research that examines the link between substance abuse and multifactorial psychological constructs like narcissism and sensation seeking, and different methods of prevention including the informative and the shocking appeal. In general, human individuals tend to be understudied in the topic of illegal and legal substances. Moreover, it may have a positive effect on the participants as they may reflect on their psychoactive substance consumption.

The full structure of this study is presented in the part called “Method”. First, the participants had to fill out questionnaires, which refer to the demographic data, variables associated with drug use, sensation seeking, and narcissism. Afterwards, they watched one video about illegal psychoactive substances. There were two different videos, which were randomized. The style of one of the videos was informative and focused on the objective science. The other one showed shocking pictures associated with illegal psychotropic drugs and focused on fear appeals. Then, the participants were asked to fill out questionnaires associated with drug use a second time.

This study aims to research if there is a difference how the different styles of the videos affect the participants. Is it meaningful to use fear appeals to change the attitudes associated with drug use or can it be more effective to focus on providing knowledge? How do gender, sensation seeking and narcissism play a role? Is it possible that the use of some psychoactive substances can lead to the use of other, which is called the gateway-hypothesis? What are the possible protective factors against drug misuse? Also, interesting and rare demographic data about the use, attitudes and other factors associated with drug use is presented.

Research Questions and Hypotheses

Research question I

How do the different styles of the prevention videos affect the participants?

Hypothesis 1

H0: There is no difference between Attitudes to Drug Use before and after the videos.

H1: There is difference between Attitudes to Drug Use before and after the videos.

Hypothesis 2

H0: There is no difference between Beliefs about Consequences before and after the videos.

H1: There is difference between Beliefs about Consequences before and after the videos.

Hypothesis 3

H0: There is no difference between Perception of Risks Associated with Drug Use before and after the videos.

H1: There is difference between Perception of Risks Associated with Drug Use before and after the videos.

Hypothesis 4

H0: The shocking video has no impact on Attitudes to Drug Use.

H1: The shocking video has impact on Attitudes to Drug Use.

Hypothesis 5

H0: The shocking video has no impact on Beliefs about Consequences.

H1: The shocking video has impact on Beliefs about Consequences.

Hypothesis 6

H0: The shocking video has no impact on Perception of Risks Associated with Drug Use.

H1: The shocking video has impact on Perception of Risks Associated with Drug Use.

Hypothesis 7

H0: The informative video has no impact on Attitudes to Drug Use.

H1: The informative video has impact on Attitudes to Drug Use.

Hypothesis 8

H0: The informative video has no impact on Beliefs about Consequences.

H1: The informative video has impact on Beliefs about Consequences.

Hypothesis 9

H0: The informative video has no impact on Perception of Risks Associated with Drug Use.

H1: The informative video has impact on Perception of Risks Associated with Drug Use.

Hypothesis 10

H0: The informative video and the shocking video do not differ in their effects on Attitudes to Drug Use.

H1: The informative video and the shocking video do differ in their effects on Attitudes to Drug Use.

Hypothesis 11

H0: The informative video and the shocking video do not differ in their effects on Beliefs about Consequences.

H1: The informative video and the shocking video do differ in their effects on Beliefs about Consequences.

Hypothesis 12

H0: The informative video and the shocking video do not differ in their effects on Perception of Risks Associated with Drug Use.

H1: The informative video and the shocking video do differ in their effects on Perception of Risks Associated with Drug Use.

Hypothesis 13

H0: The informative video and the shocking video do not differ in their effects on the affects.

H1: The informative video and the shocking video do differ in their effects on the affects.

Research Question II

Does the prior knowledge about psychoactive substances and their effects impact the reaction to the different prevention videos?

Hypothesis 14

H0: Knowledge about Drug Use has no effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

H0: Knowledge about Drug Use has an effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

Hypothesis 15

H0: Earlier consumption of psychoactive substances has no effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

H0: Earlier consumption of psychoactive substances has an effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

Research Question III

Do Sensation Seeking and Narcissism have an effect on Drug Use?

Hypothesis 16

H0: There is no relationship between Sensation Seeking and other variables associated with Drug Use.

H1: There is a relationship between Sensation Seeking and other variables associated with Drug Use

Hypothesis 17

H0: There is no relationship between Narcissism and other variables associated with Drug Use.

H1: There is a relationship between Narcissism and other variables associated with Drug Use.

Hypothesis 18

H0: There is no relationship between Narcissism and Sensation Seeking.

H1: There is a relationship between Narcissism and Sensation Seeking.

Research Question IV

Does gender have an effect on Drug Use, Sensation Seeking, and Narcissism?

Hypothesis 19

H0: There is no difference in Sensation Seeking, Narcissism, and other variables associated with Drug Use between genders.

H1: There is difference in Sensation Seeking, Narcissism, and other variables associated with Drug Use between genders.

Hypothesis 20

H0: There is no difference in variables and answers associated with Prescription Drug Use between genders.

H1: There is difference in variables and answers associated with Prescription Drug Use between genders.

Hypothesis 21

H0: There is no difference in variables and answers associated with Legal Drug Use between genders.

H1: There is difference in variables and answers associated with Legal Drug Use between genders.

Hypothesis 22

H0: There is no difference in variables and answers associated with Illegal Drug Use between genders.

H1: There is difference in variables and answers associated with Illegal Drug Use between genders.

Research Question V

Are there gateway-drugs which lead to more harmful and illegal substances?

Hypothesis 23

H0: Cannabis is not a gateway drug for other illegal psychotropic drugs.

H1: Cannabis is a gateway drug for other illegal psychotropic drugs.

Hypothesis 24

H0: Tobacco is not a gateway drug for cocaine.

H1: Tobacco is a gateway drug for cocaine.

Research Question VI

Is poly-drug use more common when psychoactive substances are being consumed?

Hypothesis 25

H0: Poly-drug use is not common when people consume psychoactive substances.

H1: Poly-drug use is common when people consume psychoactive substances.

Research Question VI

Does Drug Use lead to psychopathological illnesses?

Hypothesis 26

H0: There is no relationship between psychopathology and Drug Use.

H0: There is a relationship between psychopathology and Drug Use.

Research Question VII

What are the protective factors for Drug Use?

Hypothesis 27

H0: A relationship with a partner is not a protective factor to Drug Use.

H1: A relationship with a partner is a protective factor to Drug Use.

Hypothesis 28

H0: Knowledge is not a protective partner to problems associated with Drug Use.

H1: Knowledge is a protective partner to problems associated with Drug Use.

Method

Study design

With the goal to focus the research on the differences between the effects of shocking and informative videos about drugs, the method of a randomized trial was chosen. This method is optimal for scientific experiments and can reduce bias. The participants in the trial are randomly allocated to either the group watching a shocking video about drugs being the treatment group or an informative video being the control group. Neither the researcher nor the participants choose which video they watch. Using this method assures that the groups are similar and that the videos they watch can be compared objectively.

For the research of this work, an online questionnaire was embedded on the internet site “www.soscisurvey.de”. SoSci Survey is a software package for conducting online surveys professionally. It allows to create online questionnaires, send invitation emails and provides data in SPSS. In addition it was specifically developed for scientific surveys and provides different flexible methods in research design. The appropriate use of SoSci Survey is free for this master thesis as it is for scientific purposes with no commercial background. This provider was chosen by the author, because it offers many unique advantages irreplaceable for this research as the randomizing, the integration of video files, completely online-based software and data secure levels.

The research took place from the 22th june to the 22th august 2017. Self-report questionnaires were used to measure outcome variables. The questionnaire consists of a set of questions about demographic data, 10 scales and a set of questions designed to measure the affects after watching the video and the “reality check” with questions about the information received watching the video. The 10 scales in the study are (1) “Age of Beginning” (12 items), (2) “Familiarity and Awareness of Drugs” (8 items), (3) “Experienced Effects of Drug Use” (7 items), (4) “Use of Combination of Legal and Illegal Drugs” (6 items), (5) “Attitudes to Drug Use” (12 items), (6) “Beliefs about Consequences (14 items), (7) “Perception of Risks (21 items), (8) “DUDIT - Drug Use Disorders Identification Test” (11 items), (9) “Sensation Seeking Scale – Version V” (40 items) and (10) “NPI – Narcissistic Personality Inventory” (40 items). Sets of individual variables after the video include questions on the affects (9 items) and a “reality check” with questions about the provided information (4 items). After the video the scales “Attitude to Drug Use”, “Beliefs about Consequences” and “Perception of Risks” are asked a second time. Each scale was calculated so that a high score indicates a high level of the factor. The three scales asked a

second time were recoded so that the participants had to choose the right answers. The extreme high score was on the left side in the questionnaire before the videos and on the right side after the videos. The intention was to maintain the concentration of the participants and to ensure proper responses.

Sample description

German speaking participants from all over the world were invited to participate, which was completely voluntary. The interest of this research is in the whole population understanding the questionnaire with no specific sample. The sample will be presented in the part with the results. The research is based on totally anonymously completed questionnaires with no intended sampling frame.

Measuring Instruments and measured variables

The chosen survey instruments of self-administered, structured questionnaires, with the respondents being asked to circle the appropriate answer or number online for each question. Written instructions within each scale and set of questions assured the respondents complete anonymity and confidentiality. The number in the brackets stands for the coding in the SPSS-software-program. The following measuring instruments and measured variables were chosen and asked:

1) Demographic data

A series of questions related to the background factors including age, nationality, mother language, gender, employment status, income, living area, psychopathology in the past, use of legal psychotropic drugs, marital status and education.

The age ranges from “<18” (1) to “>75” (60). The variable is Age.

The nationality has the aspects “Austrian” (1), “German” (2), or “Another” (3). If the third option was answered, the participant could write an open text. The variable is Nationality.

The mother language was an open text, which every participant could write by himself or herself. The variable is named Mother Language.

The gender options were “Male” (1), “Female” (2), and “Another” (3). This variable is Gender.

The responses for the employment status were “Employed full time” (1), “Employed part time” (2), “Employed partially” (3), “In education” (4), “Seeking work / Unemployed” (5), “Retired” (6), “In parental leave” (7), “Another” (8). This variable is Employment Status.

The income ranges from “Under €400,-“ (1), “Between €400,- and €999,-“ (2), “Between €1000,- and €1499,-“ (3), “Between €1500,- and €1999,-“ (4), “Between €2000,- and €2499,-“ (5), “Over €2500,-“ (6). This variable is called Income.

For the factor of the living area the chosen answers were “Urban area” (1), “Regional area” (2), and “Remote area” (3). Living Area is the provided variable.

The question for the psychopathology was “Did you get a diagnosis of a mental illness in the past?” with the options “No” (1) and “Yes” (2). If the answer was “yes” (2), then there was the possibility to write down in an open text which explicit illness was diagnosed. Here, the outcome is the variable Psychopathology.

The next question was “Do you take psychotropic drugs (“Psychopharmaka”)? If yes, which one?” “No” (1), “Yes” (2) were the response options and if the answer was “Yes” (2), then there was the possibility to write down in an open text which explicit psychotropic drug. This variable is Psychotropic Drugs.

The marital status asked if the participant is “Single” (1), “In a relationship” (2), “Married” (3), “Divorced” (4), “Widowed” (5), or “Another” (6). The answer of “Another” (6) lead to an open text manual entry. This variable is named Marital Status.

The last item in the demographic block screened the education level of the participants with the question to their highest finished education and the response options “No educational qualifications” (1), “Compulsory school” (2), “Apprenticeship” (3), “Abitur / Matura” (4), “University of applied sciences” (5), “University with a bachelor degree” (6), “University with a master degree” (7). The variable for this topic is Education.

The following eight measuring instruments are provided by The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).

2) “Age of Beginning” (12 items)

The Age of beginning to use a substance tends to be a major predictor of later use and problems associated with use. The reason may be other factors associated with early use which of themselves predict later use. Age of beginning is therefore of relevance as an outcome and for planning of programs as well. In the instrument on Age of Beginning a low score means a high level of awareness.

The question is “How old were you when you tried the following substance for the first time?”. The items are “Marihuana or hashish” (a), “LSD or other hallucinogens” (b), “Cocaine or crack” (c), “Heroin” (d), “Ecstasy / MDMA” (e), “Amphetamines” (f), “Tranquilizer (without prescriptions)” (g), “Beer” (h), “Wine” (i), “High-proof alcohol” (j), “Being drunk from alcohol” (k) and “First cigarette” (l).

The response options are “never” (1), “11 or younger” (2), “12 to 15” (3), “16 to 18” (4), “18 to 24” (5), “25 to 34” (6), and “35 or older” (7). The numbers are in years.

Calculation of Indices: The EMCDDA states that this instrument can give an indication of mean age on initiation to legal and illegal substances. In this research, the option “never” was excluded later on for the mean score and the other codes were recoded. The option “11 or younger” was then coded with (1) and the “35 or older” with (6). Through the mean-score three variables were calculated with the SPSS. With all the options, all the illegal options and all the legal options.

This instrument provides the variables Age of Beginning, Age of Legal Beginning, and Age of Illegal Beginning that were calculated with the mean score. The higher the mean score the older the participant was when he or she tried the asked psychoactive substances as he or she states in this questionnaire. “Age of Beginning” contains every item, Age of Illegal Beginning” only the items (a), (b), (c), (d), (e), (f), and (g), because these are the illegal psychoactive substances, while Age of Legal Beginning includes the items (h), (i), (j), (k), and (l), the legal psychoactive substances.

3) “Familiarity and Awareness of Drugs” (8 items)

The measures of knowledge in the topic of illegal psychoactive substances are not frequently used, largely because they tend not to predict behavior, but they are of big interest for this research.

“Make a cross which item applies to you” is asked about “Marihuana” (a), “Amphetamines” (b), “LSD / Hallucinogens” (c), “Crack” (d), “Cocaine” (e), “Norenal” (f), “Ecstasy / MDMA” (g)

and “Tranquilizer” (h) and the items are “Never heard of it” (1), “Heard of it, but do not know much about it” (2), “Know some about it” (3), and “Know most of the effects” (4).

Calculations of Indices: According to the EMCDDA, the simple count of the number of drugs of which the respondent has heard will provide a rough indication of their familiarity with various substances. This means that an overall sample will show the level of awareness of particular drugs in the group being studied.

This instrument provided the variable Knowledge or Familiarity and Awareness of Drugs and was calculated with the summation score. The higher the score the more knowledge in the topic of illegal psychoactive substances the participant states to have in this questionnaire.

4) “Experienced Effects of Drug Use” (7 items)

Experienced effects are used by the EMCDDA to indicate the extent to which respondents have actually experienced particular effects of drug use, rather than whether or not they believe that particular outcomes will occur.

The question here is “Have you ever had problems because of drug consumption?” and the items are “Accident or injury” (a), “Difficulties with the police” (b), “Lack of money” (c), “Feeling sick” (d), “Conflicts or disputes” (e), “Problems with parents” (f), and “Problems with friends” (g) while the options are “Never” (1), “1-2 times” (2), “3-5 times” (3), and “More than 5 times” (4).

Calculation of Indices: The responses were combined to the overall number of problems that the respondent has experienced.

This instrument provided the variable Experienced Effects and was calculated with the summation score. The higher the score the more negative experiences and problems the participant states to have had in combination with the consumption of illegal substances.

5) “Use of Combination of Legal and Illegal Drugs” (6 items)

It is inevitable to measure the combinations of legal and illegal drugs, which are used on the same occasion.

“How often have you (if you have) consumed cannabis or hashish when you were also consuming alcohol?” and “How often have you consumed other drugs (not cannabis or hashish) when you were also consuming alcohol?” are the questions for this instrument and the possible answers are “0” (1), “1-2” (2), “3-5” (3), “6-10” (4), “10-20” (5), and “over 20” (6).

Computation of Indices: The response to each of the three questions yields an index

of lifetime prevalence, 12 month prevalence and thirty day prevalence for the consumption of cannabis with alcohol and other drugs with alcohol.

Every item in this instrument provides a variable, because it is important to know about the use of combination for cannabis and the other psychoactive substances as well. The higher the score the more often the participants tend to mix the legal and the illegal drugs. The variable is called Combination Drugs Alcohol calculated through the mean score. Two other possible variables are Combination Marihuana Alcohol and Combination Other Drugs Alcohol only for the combination of marihuana with alcohol and the combination of other illegal drugs excluding marihuana with alcohol.

6) “Attitudes to Drug Use” (12 items)

According to the EMCDDA, attitudes are dispositions to evaluate an object either positively or negatively. In general, while they are important context measures, they tend not to predict actual behavior very well. They should not be used as a substitute for measures of behavior. But still, this is an important instrument to measure the attitude and the tendency to think about the topic of psychoactive substances.

The question is “Here are some statements that people have made about drug use. Tick the answer that is closest to your opinion.” and the items are “using illegal drugs can be a pleasant activity” (a), “A young person should never try drugs” (b), “There are few things more dangerous than experimenting with drugs” (c), “Using drugs is fun” (d), “Many things are much more risky than trying drugs” (e), “Everyone who tries drugs regrets it” (f), “The laws about illegal drugs should be made stronger” (g), “Drug use is one of the biggest evils in the country” (h), “Drugs help people to experience life in full” (i), “Schools should teach about the real hazards of taking drugs” (j), “The police should not be annoying young people who are taking drugs” (k), and “To experiment with drugs is to give away control” (l). The given response options are “strongly agree” (1), “Agree” (2), “Hard to say” (3), “Disagree” (4), and “Strongly disagree” (5).

Computation of Indices: The scores of (a), (d), (e), (i), and (k) have to be recoded. A score of 5.00 indicates a completely favorable attitude to drugs while a score of 1.00 shows a totally negative attitude.

This instrument provided the variable Attitudes to Drug Use prae and was calculated with the mean score. A higher score stands for the tendency to have a more positive attitude towards drugs.

7) “Beliefs about Consequences” (14 items)

Beliefs about the consequences of drug use is categorized through the questions in a positive and a negative way. The EMCDDA suggests that such beliefs are more closely related to behavior if the focus is on personal use and with reference to specific circumstances.

After asking “How likely is that each of the following would happen to you if you take drugs in the next month?” the items are “Get into trouble with police” (a), “Do badly at work” (b), “Get into trouble with parents” (c), “Get fired” (d), “Have problems with my friends” (e), “Become an addict” (f), “Have money problems” (g), “Have problems finding work” (h), “Have more friends” (i), “Feel more relaxed” (j), “Have more fun” (k), “Be more popular” (l), “Forget my troubles” (m), and “Be more confident and outgoing” (n). The options are “Very likely” (1), “Likely” (2), “Hard to say” (3), “Unlikely” (4), and “Very unlikely” (5).

Calculation of Indices: The mean of “8” (a-h) items provides a measure of negative consequences while the remaining seven items (i-n) provide a measure of positive consequences. The negative consequences items were recoded so a higher score stands for the tendency to have more positive beliefs and less negative about consequences after consuming illegal drugs.

This instrument provided the variable Beliefs about Consequences prae as a general variable and the variables Beliefs about Negative Consequences prae and Beliefs about Positive Consequences prae with only the negative or the positive consequence items calculated. Each variable was calculated with the mean score. The higher the mean score the more positive and less negative consequences the participant tends to expect when he or she consumes illegal psychoactive substances in the next month. The lower the score the less positive and the more negative consequences are expected.

8) “Perception of Risks Associated with Drug Use” (21 items)

The perception of risks is closely associated with “Beliefs about Negative Consequences”. Because of the attention given to the risk concept this instrument merits separate treatment. In the example below the risk associated with occasional vs. frequent use is investigated.

The question to the participant is “How much risk is there that someone will harm themselves if they...” with the response items “Try marijuana occasionally” (a), “Use marijuana regularly” (b), “Try solvents occasionally” (c), “Use solvents regularly” (d), “Smoke cigarettes

Occasionally” (e), “Smoke one or more packs of cigarettes per day” (f), “Take one or two drinks nearly every day” (g), “Take four or five drinks nearly every day” (h), “Take five or more drinks once or twice each weekend” (i), “Try LSD occasionally” (j), “Use LSD regularly” (k), “Try amphetamines occasionally” (l), “Use amphetamines regularly” (m), “Try cocaine occasionally”

(n), “Use cocaine regularly” (o), “Try crack occasionally” (p), “Use crack regularly” (q), “Try ecstasy occasionally” (r), “Use ecstasy regularly” (s), “Try tranquillizers occasionally” (t), “Use tranquillizers regularly” (u). The participant chooses between “No risk” (1), “Small risk” (2), “Moderate risk” (3), “Great risk” (4), and “Hard to say” (5).

“Hard to say” (5) was excluded for the results.

Calculation of Indices: Through the mean score nine variables were provided with the SPSS software program.

This instrument provided the general variable “Perception of Risks associated with Drug Use before the Video” (Riskprae) and was calculated with the mean score with all the items. In the instrument on Perception of Risks Associated with Drug Use, a high score stands for the tendency to value the specific risk higher.

Further sub-variables are specific calculations of the provided items:

Perception of Risks associated with occasional Drug Use before the Video (RiskOccprae) through the calculation of the mean score of the items (a), (c), (e), (g), (j), (l), (n), (p), (r), and (t).

Perception of risks associated with regular drug use before the video (RiskRegprae) through the calculation of the mean score of the items (b), (d), (f), (h), (k), (m), (o).

Perception of risks associated with illegal occasional drug use before the video (RiskIllegalOccprae) through the calculation of the mean score of the items (a), (e), (j), (l), (n), (p), (r), and (t)

Perception of risks associated with illegal regular drug use before the video (RiskIllegalRegprae) through the calculation of the mean score of the items (b), (k), (m), (o), (q), (s), and (u).

Perception of risks associated with illegal drug use before the video (RiskIllegalprae) through the calculation of the mean score of the items (b), (f), (h), (k), (m), (o), (q), (s), (u), (a), (c), (e), (g), (j), (l), (n), (p), (r), and (t).

Perception of risks associated with legal occasional drug use before the video (RiskLegalOccprae) through the calculation of the mean score of the items (c), (e) and (g).

Perception of risks associated with legal regular drug use before the video (RiskLegalRegprae) through the calculation of the mean score of the items (d), (f) and (h).

Perception of risks associated with legal drug use before the video (RiskLegalprae) through the calculation of the mean score of the items (c), (d), (f), (h), (e), (g).

9) “DUDIT - Drug Use Disorders Identification Test” (11 items)

According to its authors Berman, Bergman, Palmstierna, and Schlyter (2007), “DUDIT” is a simple self-report screening instrument focusing on current drug-related problems and facilitating comparison between different groups.

The final 11 items in this measurement were chosen to give information on the level of drug intake and fulfilment of selected criteria for substance abuse/harmful use and dependence according to the ICD-10 and DSM-4 diagnostic systems. This instrument yields scores on a continuous interval scale and is used in fields of criminal justice, addiction treatment and psychiatric settings.

The Drug Use Disorders Identification Test includes four blocks of questions. The general instruction is “Here are a few questions about drugs. Please answer as correctly and honestly as possible by indicating which answer is right for you.”

The first block contains the questions “How often do you use drugs other than alcohol?” (a), and “Do you use more than one type of drug on the same occasion?” (b), with the response options “Never” (0), “Once a month or less often” (1), “2-4 times a month” (2), “2-3 times a week” (3), and “4 times a week or more often” (4).

The next question is “How many times do you take drugs on a typical day when you use drugs?” (c). The participants can choose between “0” (0), “1-2” (1), “3-4” (2), “5-6” (3), and “7 or more” (4).

The third block contains six questions “How often are you influenced heavily by drugs?” (d), “Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?” (e), “Has it happened, over the past year that you have not been able to stop taking drugs once you started?” (f), “How often over the past year have you taken drugs and then neglected to do something you should have done?” (g), “How often over the past year have you needed to take a drug the morning after heavy drug use the day before?” (h), and “How often over the past year have you had guilt feelings or a bad conscience because you used drugs?” (i), with the possible responses “Never” (0), “Less often than once a month” (1), “Every month” (2), “Every week” (3), and “Daily or almost every day” (4).

The last block asks the participants “Have you or anyone else been hurt (mentally or physically) because you used drugs?” (j), and “Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?” (k). The participants have the option of the three responses “No” (0), “Yes, but not over the past year” (2), and “Yes, over the past year” (4).

The measuring was performed through a summation. Items one to nine with five alternative responses each were coded “1,” “2,” “3,” or “4,” and the last two items with only three alternative responses were coded “0,” “2” or “4”. The minimum score is “0” and the maximum score is “44”.

This instrument provided the variable DUDIT and was calculated with the summation score. In addition, the other items are also used in the statistical evaluation.

10) “Sensation Seeking Scale – Version V” (40 items)

The Sensation Seeking Scale – Version V was created 1978 by the authors Zuckerman, Eysenck and Eysenck to measure the whole variable of sensation seeking. In this research, the German version by Beauducel, Strobel, & Brocke is used (2003).

The instrument measures besides the main variable four subscales: “thrill and adventure seeking (TAS)”, “experience seeking (ES), “disinhibition (DIS), and “boredom susceptibility” (BS).

TAS describes the tendency to search for dangerous stimuli. ES stands for the search and the living of the nonconformist lifestyle and correlates with drug use. DIS describes the social and sexual uninhibited behavior. BS stands for the aversion of routine behavior and boredom. Each subscale is measured by ten items in a forced choice presentation format. The participant is able to choose between two statements. The instruction is to read through both statements and to choose the one he or she prefers.

The SSS-V is the most used instrument for measuring the construct of sensation seeking and is seen as a standard inventory.

The coding for this instrument are (1) for sensation seeking and (0) for the other option.

This instrument provided the variables Sensation Seeking, TAS, ES, DIS and BS and was calculated with the summation score. Scoring ranges from “0” to “10” on each subscale, for a range of “0” to “40” on the complete SSS-V. All are measured at the interval level. A higher score stands for a higher level in sensation seeking.

11) “NPI – Narcissistic Personality Inventory” (40 items)

The Narcissistic Personality Inventory NPI (Triller, 2003) is used in psychiatric research to estimate narcissistic components. The NPI is a 40-item self-report questionnaire based on DSM-IV-TR criteria for Narcissistic Personality Disorder. It identifies seven factors (Authority, Exhibitionism, Superiority, Entitlement, Exploitativeness, Self-sufficiency, and Vanity) associated with narcissistic traits.

This instrument contains 40 items presenting 40 states about attitudes and opinions. The participants can choose between “applies completely” (3), “rather correct” (2), “rather not correct” (1), and “not correct at all” (0). The items were reversed in their polarity and randomized to bypass the “halo-effect” as written in the literature by Triller (2003).

This instrument provided the variable Narcissism and was calculated with the summation score. Scoring ranges from “0” to “120” and a higher score means a higher level in narcissism.

12) Here the participant watches a short video with different stimuli. Two videos were specially designed by the author for this research.

Shocking video: “Körperschäden durch Drogen” is taken from the German television program “Welt der Wunder”, which is an informative program. The video is cut into 07:01 minutes. The paradigm of this video shows the psychoactive substances in a very negative light. Here, drugs tend to manipulate the individual and destroy our brain. The pictures are extremely shocking as dying people are shown after they have consumed drugs. The appeals are very shocking and negative and focus on creating a high emotional response for the individual watching. Presented “drugs” are MDMA, crystal meth, cocaine and heroin. The information given by ex-consumers focuses only on the negative effects.

The original video is available to watch here:
https://www.youtube.com/watch?v=UoTFKoC_0Cs

Or

Informative video: “Gehirn unter Drogen” is taken from a different German television station – “ARTE”, which tends to be more objective and informative than other stations. This documentary about drugs was broadcast from the 10th to the 14th of October 2005. Interestingly, the video was deleted from the internet broadcaster “Youtube” right after the researcher of this thesis got in contact with the station to get copyrights to show the video to participants due to academic research. The original video is cut into 09:29 minutes by the author, so it became more compact and could provide more information. The paradigm of this video shows the psychoactive substances in an informative, calm and objective light. Participants watch how different substances affect different parts of the brain and which effect they may have on the brain, the emotions, the cognition and other aspects of the human individual. The appeals are not very shocking and neg-

ative and tend not to focus on high emotional response for the individual watching. Presented “drugs” are LSD, MDMA, cocaine and heroin. The given information by academic researchers is which neurotransmitters are working after the consumption and which effects may be provided.

It was very difficult to find informative and objective videos about illegal drugs in the internet. Nearly every video about this topic tends to focus on shocking and only negative effects and appeals. This discovery was a small confirmation and enhancer for my hypothesis made in the beginning that the illegal psychoactive substances are seen as very negative in the society and objective information is hard to get. The comments underneath the shocking video made by different viewers tend to criticize the video for its “wrong one-sided information” and not being objective.

Both final videos were shown to 10 test-participants and each of them confirmed their contents and appeals being significantly different.

13) “Affects” (9 items)

Directly after the video the participants were asked a set of nine questions to screen the experienced affects and the arousal level. “Please state, which affect this video had on you.” was the general instruction and the first block “I experienced the video as...” The scores differ from “Not correct at all” (1) to “Applies completely” (6) on a sixfold form. An even number of forms was chosen to “nudge” the participants into a clear choice. The items are: “Shocking” (a), “Informative” (b), “Interesting” (c), “Worth seeing” (d), “Also suitable for juveniles” (e), “Emotional” (f), “Boring” (g). The last two items ask how the participants feel (h) directly after the video from “Very bad” (1) to “Very good” (6) and their maintained concentration and focusing on the given information (i).

14) “Reality Check” (4 items)

To make sure that the participants concentrated on the video a “reality check” with four short questions about the provided information were asked. The questions were easy to solve, but ensured, that participants had to focus on the video to answer the questions. The questions were specially designed for the two different videos with explicit questions to each of them and their informational content.

15) Second “Attitudes to Drug Use” after the Video (12 items)

This same instrument was submitted a second time. The answers were recoded into the other direction to prevent the participants from answering exactly the same way as before the video and keeping their concentration.

This instrument provided the variable Attitudes to Drug Use post and was calculated with the mean score. A higher score stands for the tendency to have a more positive attitude towards drugs.

16) Second “Beliefs about Consequences” after the Video (14 items)

This same instrument was submitted a second time. The answers were recoded into the other direction to prevent the participants from answering exactly the same way as before the video and keeping their concentration

This instrument provided the general variable Beliefs about Consequences post and was calculated with the mean score. Furthermore, as calculated before, the other two provided variables are Beliefs about Negative Consequences post and Beliefs about Positive Consequences post. The higher the mean score the more positive and less negative consequences the participant tends to expect when he or she consumes illegal psychoactive. The lower the score the less positive and the more negative consequences are expected.

17) Second “Perception of Risks” after the Video (21 items)

This same instrument was submitted a second time. The answers were recoded into the other direction to prevent the participants from answering exactly the same way as before the video and keeping their concentration.

This instrument provided the general variable “Perception of Risks associated with Drug Use after the Video” (Riskpost) and was calculated with the mean score. In the instrument on Perception of Risks Associated with Drug Use, a high score stands for the tendency to value the specific risk higher.

Perception of risks associated with occasional drug use after the video (RiskOccpost) through the calculation of the mean score of the items (a), (c), (e), (g), (j), (l), (n), (p), (r), and (t).

Perception of risks associated with regular drug use after the video (RiskRegpost) through the calculation of the mean score of the items (b), (d), (f), (h), (k), (m), (o), (q), (s), and (u).

Perception of risks associated with occasional illegal drug use after the video (RiskIllegalOccpost) through the calculation of the mean score of the items (a), (c), (e), (j), (l), (n), (p), (r), and (t)

Perception of risks associated with regular illegal drug use after the video (RiskIllegalRegpost) through the calculation of the mean score of the items (b), (d), (k), (m), (o), (q), (s), and (u).

Perception of risks associated with illegal drug use after the video (RiskIllegalpost) through the calculation of the mean score of the items (b), (d), (f), (h), (k), (m), (o), (q), (s), (u), (a), (c), (e), (g), (j), (l), (n), (p), (r), and (t).

Perception of risks associated with occasional legal drug use after the video (RiskLegalOccpost) through the calculation of the mean score of the items (e) and (g).

Perception of risks associated with regular legal drug use after the video (RiskLegalRegpost) through the calculation of the mean score of the items (f) and (h).

Perception of risks associated with legal drug use after the video (RiskLegalpost) through the calculation of the mean score of the items (f), (h), (e), (g).

Pre-Test of the Questionnaire

To ensure the functioning a pre-test was made with a small sample of participants, colleagues and friends of total 10. The goal was to detect any flaws in my questioning and correct these prior to the main questionnaire. Having done the pilot-questioning, it was possible to make more amendments to maximize my response rate and minimize the error rate on answers. All small errors were corrected.

Implementation

Elevation of the data through an anonymous online questionnaire in an adequate sample. The participants were recruited via social media sites like “Facebook” and “Xing”. The participants were required to have reached the age of 18 to be able to participate. The topic of the research was stated as “drug prevention” and all participants were assured total anonymity and voluntariness, as well as use only for academic research. In addition, the participants were free to end the questionnaire whenever they wanted to, but all questions had to be answered to ensure the data. It was made clear that this research is also for people not having made experience with psychoactive substances. Another important differentiation was given by stating that the word “drug” stands for all the illegal substances like heroin, cocaine and other similar substances and not alcohol, tobacco, caffeine and other similar “legal drugs”. They were also warned before the start of the questionnaire, that a video would be presented with emotional content about the topic. The survey and the video took on average approx. 40 minutes in the pre-test.

Results and Outputs

Response Rate

The online research took place from the 22.06.2018 to the 22.08.2018 on the internet site www.soscisurvey.de.

It is possible to view the exact date in the diagram below in figure 1.

Response Rate for the Questionnaire

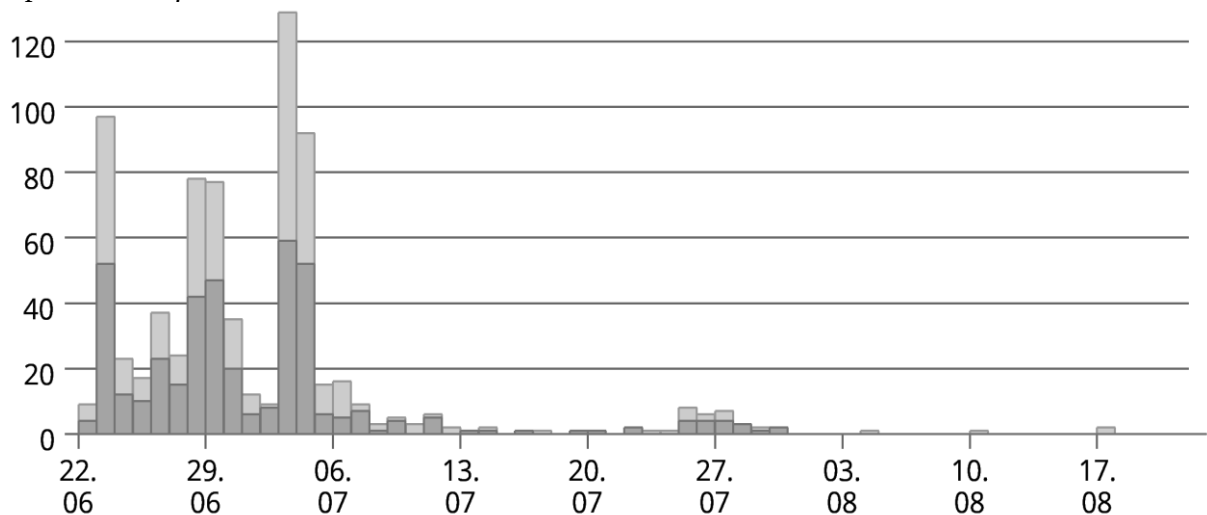


Figure 1. The response rate for the questionnaire between the 22.06.2017 and the 22.08.2017.

In total, the survey was clicked and therefore started exactly 5620 times as the first page of the two different versions was accessed this often. The “shocking” version where the participants viewed the negative, affecting and shocking video was finished 202 times as the “informative” version with the informative, objective and calm video was filled out 201 times. This research provided 403 fully filled out questionnaires.

In this research, the version with the informative video will be called “I” and the version with the shocking video will be called “S”.

Informative Version:

I was started 367 times by starting filling out page three, but was finished by 201 participants. High dropout rates were on page 12 (Sensation Seeking Scale) with 23 dropouts, page seven (Use of Combinations) with 16 dropouts and page three (Demographic Data) with 16 dropouts as well. After page three, there were 166 dropouts and after page, one there were 2593 dropouts.

Table 1: Dropout Rate for the Informative Version

Page	Dropout	Cumulative	
20	0	201	
19	3	204	
17	5	209	
16	13	222	
15	9	231	
14	14	245	
13	14	259	
12	23	282	
11	8	290	
10	10	300	
9	11	311	
8	13	324	
7	16	340	
5	2	347	
4	4	351	
3	16	367	
Totally	166		

Note. The total dropouts are presented on this table for every page of the questionnaire for the informative version.

Shocking Version:

S was started 374 times by starting filling out page three, but was finished by 202 participants. High dropout rates were given on page 11 (DUDIT) with 22 dropouts, page three (Demographic Data) with 20 dropouts and page 12 (Sensation Seeking Scale) with 19 dropouts. After starting with three there were 172 dropouts and after page one there were 2624 dropouts.

Table 2: Dropout Rate for the Shocking Version

Page	Dropout	Cumulative	
20	0	201	
19	2	204	
18	2	206	
17	3	209	
16	9	218	
15	5	223	
14	9	232	
13	17	249	
12	19	268	
11	22	290	
10	8	298	
9	13	311	
8	9	320	
7	15	335	

6	7	342	
5	4	346	
4	8	354	
3	20	374	
Totally	172		

Note. The total dropouts are presented on this table for every page of the questionnaire for the shocking version.

Descriptive Statistics

For the statistical analysis, two samples were taken from the total responses. Sample 1 is being used for research question three to research question seven. Sample 1 consists of more participants as there was no necessity for these specific research questions to exclude the participants who did not watch the videos completely or answered the questions associated with the videos correctly. Sample 2 is being used for research questions one and two and is smaller, due to more exclusions. The requisites for Sample 2 were stricter in association with the factors associated with the videos. The research questions one and two are based on the videos and therefore, it was essential to ensure that the participants in this sample watched and understood the video. As Sample 1 is bigger, it will be used as the main sample to show the descriptive statistics.

Sample 1:

The first sample is presented in diagram 1 more in-depth. The used sample for most of the hypotheses consists of 199 participants of the informative video and 201 participants of the shocking video, because three participants had to be excluded as they were under 18 years of age. Considering the different video versions the sample is balanced. In total, sample 1 consists of 400 participants ($N=400$). The sample is based primarily on Austrian and German citizens as 48.3% stated to be Austrian citizens, 44% to be German citizens and 7.8% another nationality. The age span is relatively broad extending from 18 to 65 years as it has to be stated that it was explicitly said that the participants had to have reached the 18th birthday to be able to participate. The 3 participants under 18 years were excluded in the data analysis. The mean is 26.25 years and the median lies at 25 years. The sample as a whole was relatively young ($M = 26.25$, $SD = 6.78$). A total majority of 71.8% have stated to be female, 28% to be male and 0.3% “Another”. It is visible that there is an overweight of female participants. Furthermore, the sample is dominated by the German mother language (88.8%), followed by Russian (3.5%) and Serbian (2%). Mostly, the participants were “in education” (58%), followed by “Working fulltime” (22.8%) and “working part-time” (8.5%). Also, they stated to earn most frequently between 400 and 999€ (42.5%) and under 400€ (21.8%). 82.8% tend to live in an urban area as only 17.2% show to live otherwise. The question “Did you get a diagnosis of a mental illness in the past?” is answered

with “No” by 85.5%. This is interesting as the academic literature provides different data with a much higher number for the global population. The participants who stated “Yes” showed to suffer more frequently from Depression (25 participants), Anxiety Disorders (eight participants), and Eating Disorders (eight participants). 94.8% in the sample showed not to take any psychotropic drugs. Finally, 49.3% indicated to be single as 43.8% are in a relationship, and 5.5% married.

Table 3: General Characteristics Sample 1

<i>N Participants</i>	<i>400 (I-199/S-201)</i>
<i>n Female (%)</i>	<i>287 (71.8 %)</i>
<i>Age span (in years)</i>	<i>18-65</i>
<i>Mean Age (SD)</i>	<i>26.25 (6.78)</i>
<i>Nationality n (%)</i>	<i>Austrian 193 (48.3 %)</i> <i>German 176 (44 %)</i> <i>Other 31 (7,8 %)</i>
<i>Income n (%)</i>	<i><400€ 87 (21.8%)</i> <i>400-999€ 170 (42.5%)</i> <i>1000-1499€ 57 (15.2%)</i>
<i>Living area n (%)</i>	<i>Urban area 331 (82.8%)</i> <i>Regional area 64 (16%)</i>
<i>Employment level n (%)</i>	<i>In education 232 (58 %)</i> <i>Working full-time 91 (22.8%)</i> <i>Working part-time 34 (8.5 %)</i>
<i>Relationship n (%)</i>	<i>Single 193 (48.3%)</i> <i>In a relationship 175 (43.8%)</i> <i>Married 22 (5.5%)</i>
<i>Psychopathology n (%)</i>	<i>No 342 (85.5 %)</i> <i>Yes 58 (14.5%)</i>
<i>Psychotropic drugs n (%)</i>	<i>No 379 /94.8%)</i> <i>Yes 21 (5.3%)</i>

Note. The general statistical data for Sample 1 is presented on this table.

Age of Beginning

The responses are presented in the tables and the numbers stand for total years. The descriptive data starts with the illegal psychoactive substances.

Table 4: Age of Beginning for Marihuana or Hashish

				Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	Never	71	17.75	17.75	17.75
	11 or younger	1	.25	.25	18.00
	12-15	116	29.00	29.00	47.00
	16-18	132	33.00	33.00	80.00
	18-24	68	17.00	17.00	97.00
	25-34	10	2.50	2.50	99.50
	35 or older	2	.50	.50	100.00
	Total	400	100.00	100.00	

Note. The general statistical data for the age of beginning with marihuana or hashish for Sample 1 is presented on this table. The numbers stand for the age in total years.

Marihuana/Hashish is the most common used illegal psychoactive substance in this sample. Only 17.75% state to have never tried it. Moreover, 62.25% show to have consumed it before they turned 18 years.

Table 5: Age of Beginning for LSD or other Hallucinogens

				Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	Never	292	73.00	73.00	73.00
	11 or younger	1	.25	.25	73.25
	12-15	3	.75	.75	74.00
	16-18	31	7.75	7.75	81.75
	18-24	59	14.75	14.75	96.50
	25-34	13	3.25	3.25	99.75
	35 or older	1	.25	.25	100.00
	Total	400	100.00	100.00	

Note. The general statistical data for the age of beginning with LSD or other hallucinogens for Sample 1 is presented on this table. The numbers stand for the age in total years.

73% of the participants state, that they have never tried LSD or other hallucinogens. They tend to try it between the ages of 18 and 24.

Table 6: Age of Beginning for Cocaine or Crack

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	273	68.25	68.25	68.25
	12-15	3	.75	.75	69.00
	16-18	22	5.50	5.50	74.50
	18-24	77	19.25	19.25	93.75
	25-34	24	6.00	6.00	99.75
	35 or older	1	.25	.25	100.00
	<i>Total</i>	400	100.00	100.00	

Note. The general statistical data for the age of beginning with cocaine/crack for Sample 1 is presented on this table. The numbers stand for the age in total years.

31.75% of the participants show to have consumed cocaine or crack in their lifetime. They tend to try it between the ages of 28 to 24.

Table 7: Age of Beginning for Heroin

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	385	96.25	96.25	96.25
	11 or younger	1	.25	.25	96.50
	12-15	1	.25	.25	96.75
	16-18	3	.75	.75	97.50
	18-24	9	2.25	2.25	99.75
	35 or older	1	.25	.25	100.00
	<i>Total</i>	400	100.00	100.00	

Note. The general statistical data for the age of beginning with heroin for Sample 1 is presented on this table. The numbers stand for the age in total years.

Heroin counts as an extremely dangerous psychoactive substance and only 3.75% state to have tried this drug.

Table 8: Age of Beginning for Ecstasy/MDMA

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	252	63.00	63.00	63.00
	12-15	8	2.00	2.00	65.00
	16-18	31	7.75	7.75	72.75
	18-24	91	22.75	22.75	95.50
	25-34	15	3.75	3.75	99.25
	35 or older	3	.75	.75	100.00
	<i>Total</i>	400	100.00	100.00	

Note. The statistical data for the age of beginning with ecstasy/MDMA for Sample 1 is presented on this table.

Ecstasy/MDMA is shown to be consumed by 37% of the participants in sample 1.

Table 9: Age of Beginning for Amphetamines

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	288	72.00	72.00	72.00
	12-15	3	.75	.75	72.75
	16-18	31	7.75	7.75	80.50
	18-24	67	16.75	16.75	97.25
	25-34	10	2.50	2.50	99.75
	35 or older	1	.25	.25	100.00
	<i>Total</i>	400	100.00	100.00	

Note. The general statistical data for the age of beginning with amphetamines for Sample 1 is presented on this table. The numbers stand for the age in total years.

72% in the sample 1 indicate to have never tried amphetamines.

Table 10: Age of Beginning for Tranquillizers

		<i>Valid</i>		<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	363	90.75	90.75
	12-15	1	.25	91.00
	16-18	9	2.25	93.25
	18-24	26	6.50	99.75
	25-34	1	.25	100.00
	<i>Total</i>	400	100.00	100.00

Note. The general statistical data for the age of beginning with tranquilizers (anxiolytic prescriptive drugs) for Sample 1 is presented on this table. The numbers stand for the age in total years.

Only 9.75% of the participants stated to have used tranquilizers.

The following data is shown for the legal psychoactive substances – beer, wine, other high-proof alcohol, getting drunk from alcohol and the first cigarette.

Table 11: Age of Beginning for Beer

		<i>Valid</i>		<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	11	2.75	2.75
	11 or younger	45	11.25	14.00
	12-15	262	65.50	79.50
	16-18	72	18.00	97.50
	18-24	8	2.00	99.50
	25-34	2	.50	100.00
	<i>Total</i>	400	100.00	100.00

Note. The general statistical data for the age of beginning with the legal psychoactive drug beer for Sample 1 is presented on this table. The numbers stand for the age in total years.

97.25% of the participants in sample 1 indicate to have consumed beer at least once. 94.75% state to have been under 16 years of age at the time.

Table 12: Age of Beginning for Wine

		Frequency	Percent	Valid cent	Per- Cumulative Percent
Valid	Never	11.	2.75	2.75	2.75
	11 or younger	35	8.75	8.75	11.50
	12-15	243	60.75	60.75	72.25
	16-18	93	23.25	23.25	95.50
	18-24	15	3.75	3.75	99.25
	25-34	3	.75	.75	100.00
	Total	400.00	100.00	100.00	

Note. The general statistical data for the age of beginning with wine for Sample 1 is presented on this table. The numbers stand for the age in total years.

97.25% of the participants in sample 1 indicate to have consumed wine at least once, which shows parallels to beer. 92.75% state to have been under 16 years of age.

Table 13 : Age of Beginning for High-Proof Alcohol

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	14	3.50	3.50	3.50
	11 or younger	15	3.75	3.75	7.25
	12-15	223	55.75	55.75	63.00
	16-18	126	31.50	31.50	94.50
	18-24	21	5.25	5.25	99.75
	25-34	1	.25	.25	100.00
	Total	400	100.00	100.00	

Note. The general statistical data for the age of beginning with high-proof alcohol for Sample 1 is presented on this table. The numbers stand for the age in total years.

Only 3.5% of the participants in this sample specify to have never drunk high-proof alcohol. Most of the participants have consumed the substance underage when it was not even legal for them.

Table 14: Getting Drunk from Alcohol for the First Time

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never</i>	19	4.75	4.75	4.75
	<i>11 or younger</i>	9	2.25	2.25	7.00
	<i>12-15</i>	222	55.50	55.50	62.50
	<i>16-18</i>	118	29.50	29.50	92.00
	<i>18-24</i>	32	8.00	8.00	100.00
	<i>Total</i>	400	100.00	100.00	

Note. The general statistical data for the first time to get drunk from alcohol for Sample 1 is presented on this table. The numbers stand for the age in total years.

Consequently, most of them got drunk from alcohol. This data shows how young the age of beginning is for the psychoactive substance alcohol.

Table 15: First Cigarette

				<i>Valid</i>	<i>Per-</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>cent</i>		<i>Percent</i>
<i>Valid</i>	<i>Never</i>	42	10.50	10.50		10.50
	<i>11 or younger</i>	49	12.25	12.25		22.75
	<i>12-15</i>	190	47.50	47.50		70.25
	<i>16-18</i>	92	23.00	23.00		93.25
	<i>18-24</i>	22	5.50	5.50		98.75
	<i>25-34</i>	4	1.00	1.00		99.75
	<i>35 or older</i>	1	.25	.25		100.00
	<i>Total</i>	400	100.00	100.00		

Note. The general statistical data for the first cigarette which symbolizes the age of beginning for tobacco for Sample 1 is presented on this table.

Cigarettes tend to be tried for the first time in a very young age as well.

In the next process step all participants were eliminated who have stated “Never” to answer the questions. Their data is shown as “Missing”.

The general statistics for illegal psychoactive substance users are presented in the following diagram. Missing stands here for “Never Used It”. This provides a general statistic with the focus on psychoactive substance users and gives the possibility to compare the different substances in the sample.

Table 16: General Statistics for Age of Beginning for Illegal Drugs

		<i>LSD or Marihuan a or Hashisch or Hallucino genes Cocaine or Crack Heroi n Ecstasy/M DMA Ampheta mines Tranquilli ser</i>						
<i>N</i>	<i>Valid</i>	329	108	127	15	148	112	37
	<i>Missi</i>	71	292	273	385	252	288	363
	<i>ng</i>							
<i>Mean</i>		3.93	4.77	4.98	4.60	4.82	4.78	4.73
<i>Median</i>		4.00	5.00	5.00	5.00	5.00	5.00	5.00
<i>Mode</i>		4.00	5.00	5.00	5.00	5.00	5.00	5.00
<i>Std.</i>		.86	.77	.70	1.12	.76	.68	.56
<i>Deviation</i>								
<i>Variance</i>		.74	.59	.49	1.26	.58	.46	.31
<i>Sum</i>		1,292.00	515.00	633.00	69.00	714.00	535.00	175.00

Note. The general statistics for the questions for the variable “Age of Illegal Beginning”. Missing stands for “Never”, which means the total amount of participants who state to have never consumed the specific illegal psychoactive substance.

The general statistics for legal psychoactive substance users are presented in the following diagram. Missing stands here for “Never Used It”.

Table 17: General Statistics for Age of Beginning for Legal Drugs

		<i>Getting High-proof Drunk from First Beer Wine Alcohol Alcohol Cigarette</i>				
<i>N</i>	<i>Valid</i>	389	389	386	381	358
	<i>Missing</i>	11	11	14	19	42
<i>Mean</i>		3.13	3.25	3.40	3.45	3.29

<i>Median</i>	3.00	3.00	3.00	3.00	3.00
<i>Mode</i>	3.00	3.00	3.00	3.00	3.00
<i>Std. Deviation</i>	.64	.70	.67	.68	.84
<i>Variance</i>	.41	.49	.44	.46	.70
<i>Sum</i>	1,216.00	1,264.00	1,314.00	1,316.00	1,177.00

Note. The general statistics for the age of beginning for beer, wine, high-proof alcohol, getting drunk from alcohol, and the first cigarette. Missing stands for “Never”, which means the total amount of participants who state to have never consumed the specific legal psychoactive substance.

Table 18: General Statistics for Age of Beginning for Substance Use Only Users

		<i>AgeofBeginn</i>	<i>AgeofIllegal</i>	<i>AgeofLegalB</i>
		<i>ing</i>	<i>Beginning</i>	<i>eginning</i>
<i>N</i>	<i>Valid</i>	397	331	397
	<i>Missing</i>	3	69	3
<i>Mean</i>		3.63	4.37	3.33
<i>Median</i>		3.57	4.50	3.20
<i>Mode</i>		3.00	4.00	3.00
<i>Std. Deviation</i>		.55	.74	.59
<i>Variance</i>		.30	.54	.35
<i>Sum</i>		1,440.31	1,445.47	1,322.90

Note. The general statistics for the variables “Age of Beginning”, “Age of Illegal Beginning”, and “Age of Legal Beginning”. Missing stands for “Never”

This data shows that legal psychoactive substances are shown to be consumed in an earlier stage of life than the illegal ones. In addition, more participants try them.

Familiarity and Awareness of Drugs

This variable “Familiarity and Awareness of Drugs” provides how much knowledge the participants have about each of the psychoactive substances. The higher the score the more knowledge the participants state to have. The score for each of the participants was calculated through the summation score and the general variable through the sum score, which is called “Familiarity and Awareness of Drugs”.

Table 19: General Statistics for Familiarity and Awareness of Drugs

		<i>Marihuana</i>	<i>Amphetamines</i>	<i>LSD/Hallucinogens</i>	<i>Crack</i>	<i>Cocaine</i>	<i>Norecstasy/MDMA</i>	<i>Tranquillizers</i>
<i>N</i>	<i>Valid</i>	400	400	400	400	400	400	400
	<i>Missing</i>	0	0	0	0	0	0	0
<i>Mean</i>		3.69	2.86	3.01	2.44	3.06	1.30	3.09
<i>Median</i>		4.00	3.00	3.00	2.00	3.00	1.00	3.00
<i>Mode</i>		4.00	2.00	3.00	2.00	3.00	1.00	3.00
<i>Std. Deviation</i>		.57	.85	.73	.65	.76	.65	.80
<i>Variance</i>		.32	.73	.53	.42	.58	.42	.64
<i>Sum</i>		1,475.00	1,143.00	1,202.00	975.00	1,224.00	519.00	1,235.00
					0	0	0	0

Note. The general statistics for the questions for the variable “Familiarity and Awareness of Drugs”. Every participant gave answers for the questions provided in this block.

Table 20: Familiarity and Awareness of Marijuana

			<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never heard of it</i>	<i>1</i>	<i>.25</i>	<i>.25</i>
	<i>Have heard about it, but have few knowledge about it.</i>	<i>18</i>	<i>4.50</i>	<i>4.75</i>
	<i>Know something about it</i>	<i>86</i>	<i>21.50</i>	<i>26.25</i>
	<i>Know most of the effects</i>	<i>295</i>	<i>73.75</i>	<i>100.00</i>
	<i>Total</i>	<i>400</i>	<i>100.00</i>	<i>100.00</i>

Note. The general statistical data for the familiarity and awareness of marihuana, which symbolizes the knowledge for marihuana. The frequency number stands for the total amount of participants who have answered with this choice.

Table 21: Familiarity and Awareness of Amphetamines

			<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>Never heard of it</i>	<i>10</i>	<i>2.50</i>	<i>2.50</i>
	<i>Have heard about it, but have few knowledge about it.</i>	<i>148</i>	<i>37.00</i>	<i>39.50</i>
	<i>Know something about it</i>	<i>131</i>	<i>32.75</i>	<i>72.25</i>
	<i>Know most of the effects</i>	<i>111</i>	<i>27.75</i>	<i>100.00</i>

	<i>Total</i>	<i>400</i>	<i>100.00</i>	<i>100.00</i>
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Note. The general statistical data for the familiarity and awareness of amphetamines, which symbolizes the knowledge for amphetamines. The frequency number stands for the total amount of participants who have answered with this choice.

Table 22: Familiarity and Awareness of LSD/Hallucinogens

			<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>
	<i>Valid</i>	<i>Never heard of</i>	<i>3</i>	<i>.75</i>
		<i>it</i>		
	<i>Have</i>	<i>heard</i>	<i>96</i>	<i>24.00</i>
	<i>about</i>	<i>it, but</i>		
	<i>have</i>	<i>few</i>		
	<i>knowledge</i>			
	<i>about it.</i>			
	<i>Know</i>	<i>197</i>	<i>49.25</i>	<i>49.25</i>
	<i>something</i>			
	<i>about it</i>			
	<i>Know most of</i>	<i>104</i>	<i>26.00</i>	<i>26.00</i>
	<i>the effects</i>			
	<i>Total</i>	<i>400</i>	<i>100.00</i>	<i>100.00</i>

Note. The general statistical data for the familiarity and awareness of LSD or other hallucinogens, which symbolizes the knowledge for this psychoactive substance. The frequency number stands for the total amount of participants who have answered with this choice.

Table 23: Familiarity and Awareness of Crack

			<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>
	<i>Valid</i>	<i>Never heard of</i>	<i>8</i>	<i>2.00</i>
		<i>it</i>		

Have heard about it, but have few knowledge about it.	235	58.75	58.75	60.75
Know something about it	131	32.75	32.75	93.50
Know most of the effects	26	6.50	6.50	100.00
Total	400	100.00	100.00	

Note. The general statistical data for the familiarity and awareness of crack, which symbolizes the knowledge for this illegal drug. The frequency number stands for the total amount of participants who have answered with this choice.

Table 24: Familiarity and Awareness of Cocaine

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never heard of it	1	.25	.25	.25
	Have heard about it, but have few knowledge about it.	102	25.50	25.50	25.75
	Know something about it	169	42.25	42.25	68.00
	Know most of the effects	128	32.00	32.00	100.00
	Total	400	100.00	100.00	

Note. The general statistical data for the familiarity and awareness of cocaine, which symbolizes the knowledge for this illegal drug. The frequency number stands for the total amount of participants who have answered with this choice.

Table 25: Familiarity and Awareness of Norenal

			Valid	Cumulative
	Frequency	Percent	Percent	Percent
Valid	Never heard of it	315	78.75	78.75
	Have heard about it, but have few knowledge about it.	59	14.75	93.50
	Know something about it	18	4.50	98.00
	Know most of the effects	8	2.00	100.00
	Total	400	100.00	100.00

Note. The general statistical data for the familiarity and awareness of “norenal”, which symbolizes a fictional psychoactive substance. The frequency number stands for the total amount of participants who have answered with this choice.

Table 26: Familiarity and Awareness of Ecstasy/MDMA

			Valid	Cumulative
	Frequency	Percent	Percent	Percent
Valid	Never heard of it	2	.50	.50
	Have heard about it, but have few knowledge about it.	106	26.50	27.00

Know something about it	147	36.75	36.75	63.75
Know most of the effects	145	36.25	36.25	100.00
Total	400	100.00	100.00	

Note. The general statistical data for the familiarity and awareness of ecstasy or MDMA, which symbolizes the knowledge for this illegal psychoactive substance. The frequency number stands for the total amount of participants who have answered with this choice.

Table 27: *Familiarity and Awareness of Tranquillizers*

			Valid	Cumulative
		Frequency	Percent	Percent
Valid	Never heard of it	135	33.75	33.75
	Have heard about it, but have few knowledge about it.	161	40.25	74.00
	Know something about it	69	17.25	91.25
	Know most of the effects	35	8.75	100.00
	Total	400	100.00	100.00

Note. The general statistical data for the familiarity and awareness of tranquillizers, which symbolizes the knowledge for this anxiolytic prescription drug. The frequency number stands for the total amount of participants who have answered with this choice.

Table 28: *General Statistics for Familiarity and Awareness of Drugs*

N	Valid	400
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Missing	0
Mean	21.44
Median	21.00
Mode	21.00
Std. Deviation	4.12
Variance	16.97
Minimum	8.00
Maximum	32.00
Sum	8,577.00

Note. The general statistical data for the general variable “Familiarity and Awareness of Drugs”.

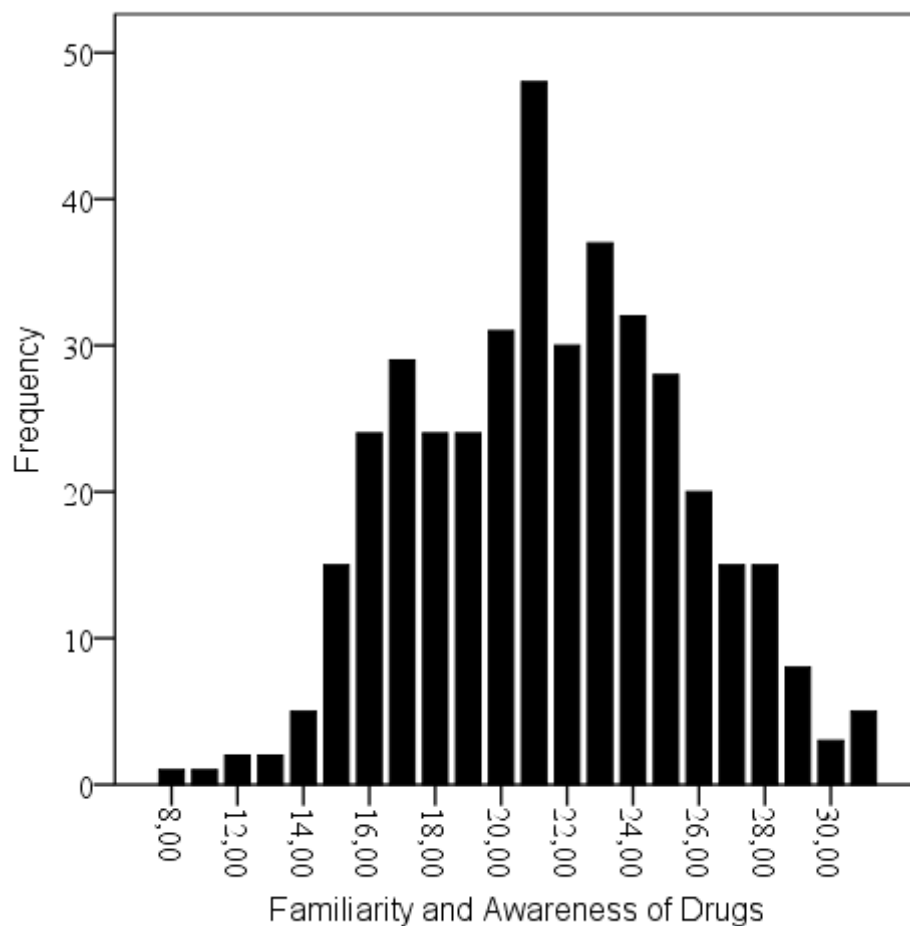


Figure 2. Histogram for the variable Familiarity and Awareness of Drugs. A normal distribution can be seen. The y-axis (frequency) stands for the total amount of participants and the x-axis shows the summation score of this variable. The higher the score the more knowledge the participants state to have about illegal psychoactive substances.

Experienced Effects of Drug Use

The variable experienced effects of drug use (ExperiencedEffectsofDrugUseSum) indicates the extent to which respondents have actually experienced particular effects of drug use, rather than whether or not they believe that particular outcomes will occur. The higher the score the more problems after or because of the psychoactive substance consumption the participants state to have. The score for each of the participants was calculated through the summation score and the general variable through the mean score. The general statistics are presented in table 29.

Table 29: General Statistics for Experiences Effects of Drug Use

<i>N</i>	<i>Valid</i>	<i>400</i>
	<i>Missing</i>	<i>0</i>
<i>Mean</i>		<i>9.88</i>
<i>Median</i>		<i>8.00</i>
<i>Mode</i>		<i>7.00</i>
<i>Std. Deviation</i>		<i>3.97</i>
<i>Variance</i>		<i>15.77</i>
<i>Minimum</i>		<i>7.00</i>
<i>Maximum</i>		<i>26.00</i>
<i>Sum</i>		<i>3,953.00</i>

Note. The general statistical data for the general variable “Experienced Effects of Drug Use”.

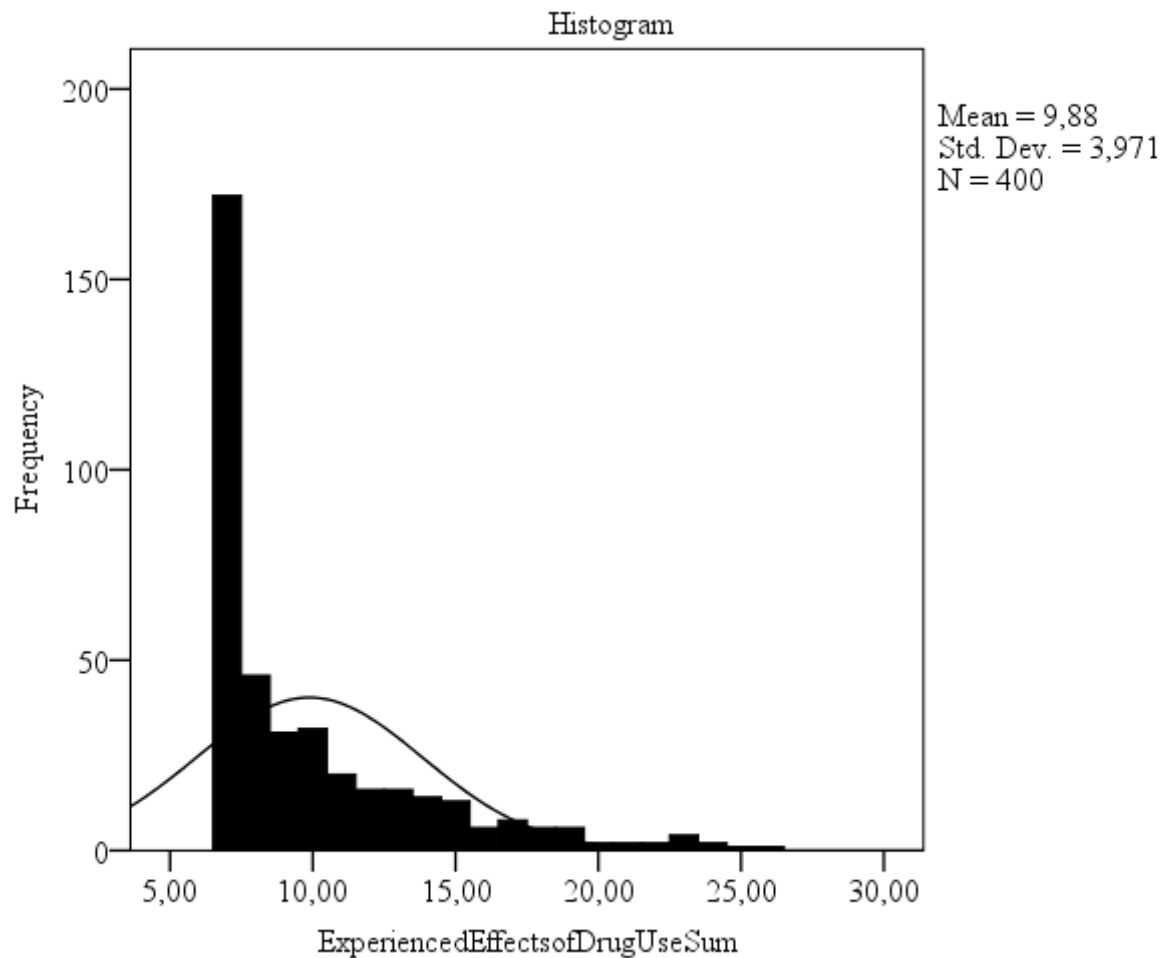


Figure 3. Histogram for Experienced Effects of Drug Use. A positive skew is visible. The y-axis (frequency) stands for the total amount of participants and the x-axis shows the summation score of this variable. The higher the score the more negative effects they state to have experienced after illegal psychoactive substance use.

Use of Combinations of Legal and Illegal Drugs

This variable shows the index of lifetime prevalence for the poly-drug use of participants. The variable was calculated through the mean score and the higher the score the more often the participants stated to combine marihuana/hashish/cannabis and alcohol (Combination Marihuana Alcohol), and other illegal psychoactive substances with alcohol (Combination Other Drugs Alcohol). Three variables are provided as the third is a general mean score for both combinations (Combination Drugs Alcohol). Table 30 presents the general statistics for all three variables.

Table 30: General Statistics for Use of Combinations of Legal and Illegal Drugs

		<i>Combination Marihuana Alcohol</i>	<i>Combination Drugs Alcohol</i>	<i>Combination Other Drugs Alcohol</i>
<i>N</i>	<i>Valid</i>	400	400	400
	<i>Missing</i>	0	0	0
<i>Mean</i>		2.44	2.13	1.81
<i>Median</i>		2.00	1.67	1.00
<i>Mode</i>		1.00	1.00	1.00
<i>Std. Deviation</i>		1.46	1.23	1.25
<i>Variance</i>		2.14	1.51	1.57
<i>Minimum</i>		1.00	1.00	1.00
<i>Maximum</i>		6.00	6.00	6.00
<i>Sum</i>		977.33	850.50	723.67

Note. The general statistical data for the general variable Combination Marihuana Alcohol, Combination Other Drugs Alcohol, and Combination Drugs Alcohol.

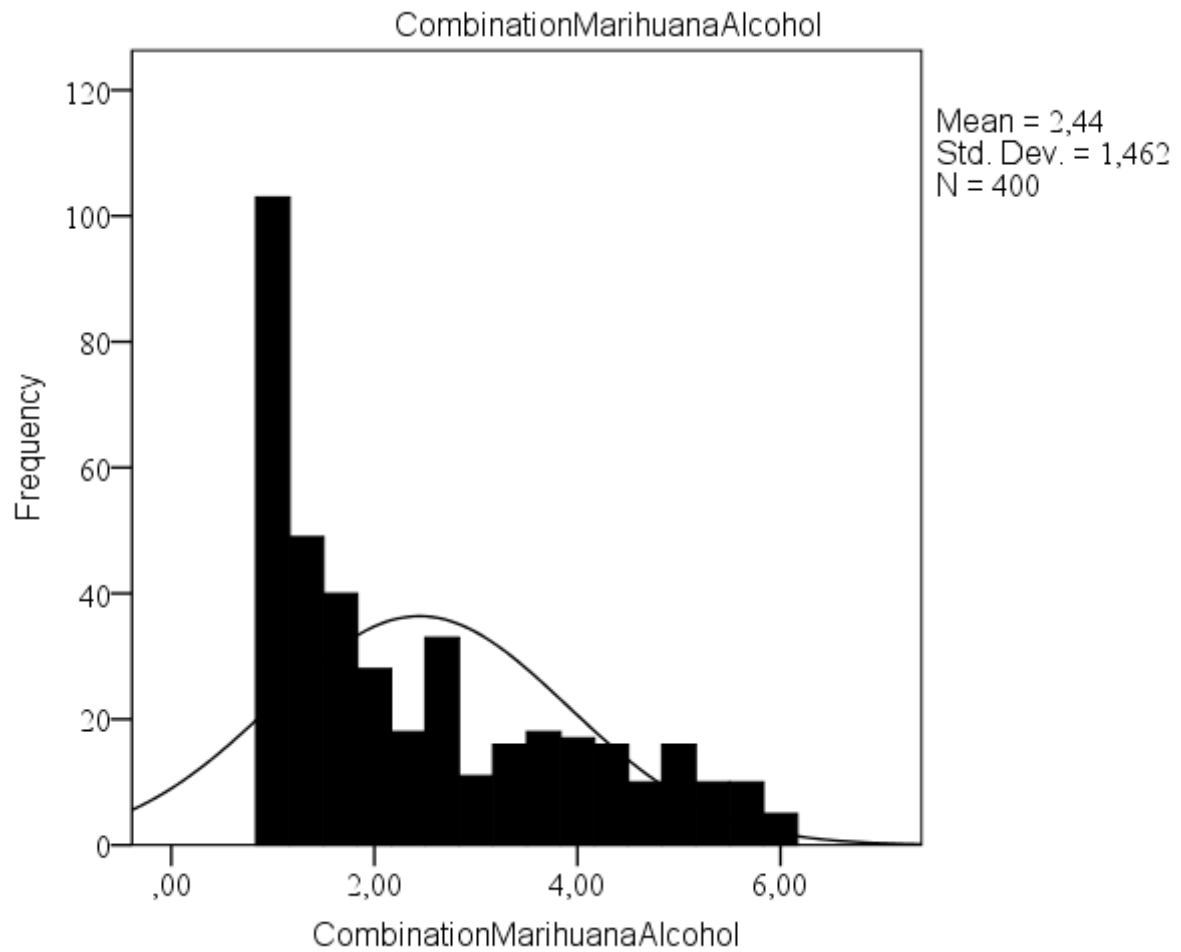


Figure 4. Histogram for the variable Combination Marihuana Alcohol. A positive skew is visible. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the more often the participants state to consume the polydrugs of marihuana with alcohol.

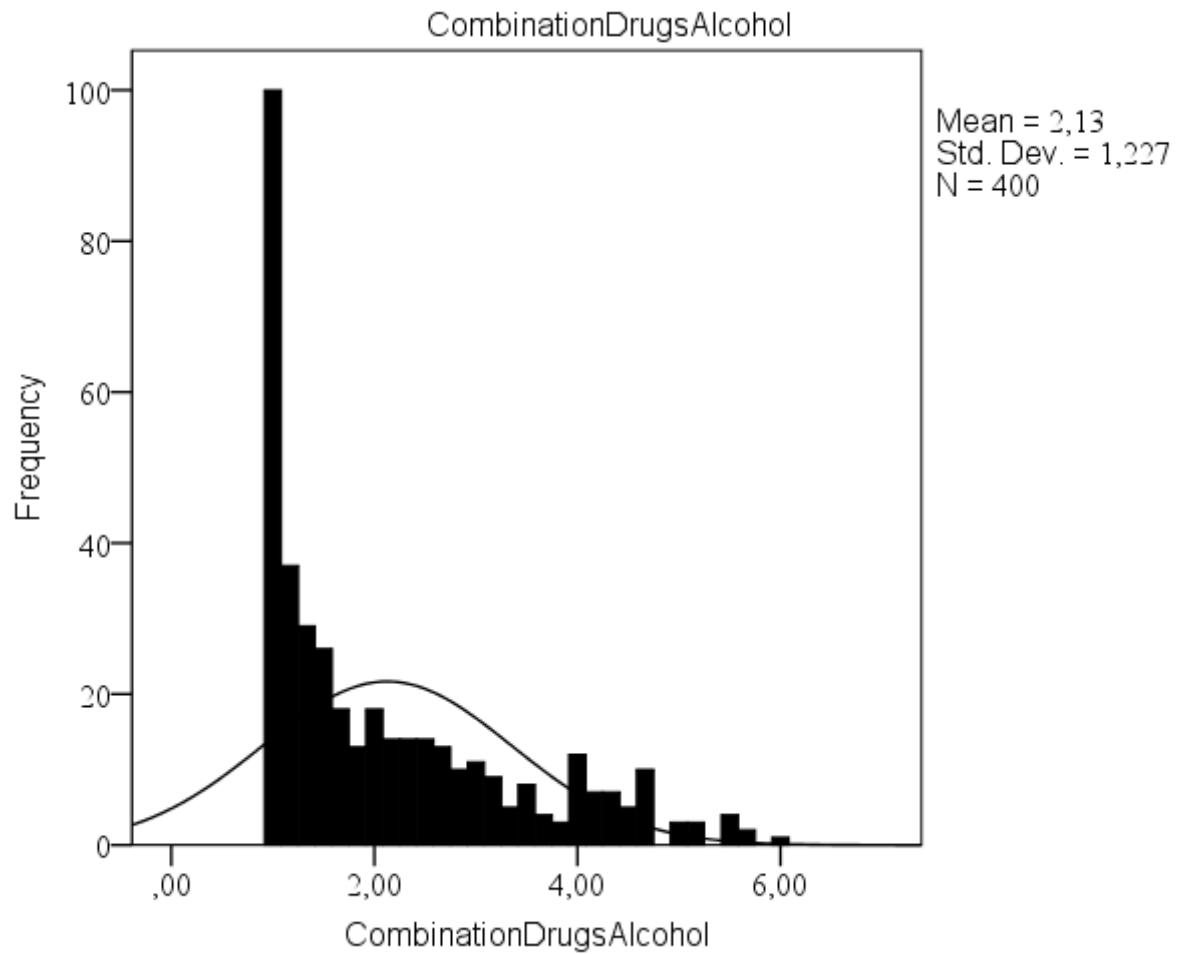


Figure 5. Histogram for the variable Combination Drugs Alcohol. A positive skew is visible. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the more often the participants state to consume the polydrugs of illegal drugs with alcohol.

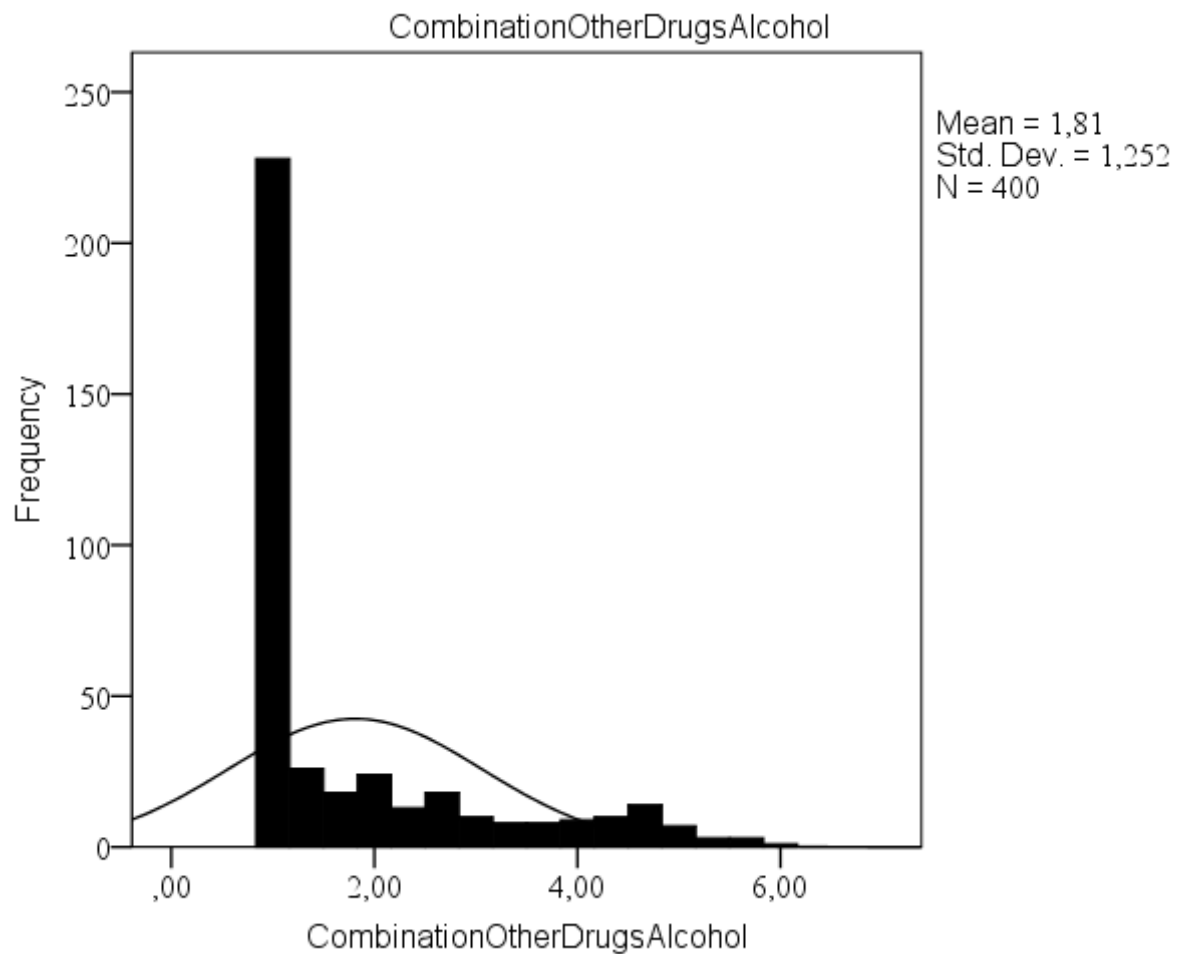


Figure 6. Histogram for the variable Combination Other Drugs Alcohol. A positive skew is visible. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the more often the participants state to consume the polydrugs of illegal drugs excluding marihuana or hashish with alcohol.

Attitudes to Drug Use

This variable (AttitudestoDrugUseprae) aims to show the attitude and the tendency to think about the topic of psychoactive substances. The scores of (a), (d), (e), (i), and (k) have to be re-coded. A score of 5.00 indicates a completely favorable attitude towards drugs while a score of 1.00 shows a totally negative attitude.

This instrument provided the variable Attitudes to Drug Use prae and was calculated with the mean score. A higher score stands for the tendency to have a more positive attitude towards drugs. The general statistics are presented in table 31.

*Table 31: General Statistics for
Attitudes to Drug Use prae*

<i>N</i>	<i>Valid</i>	<i>400</i>
	<i>Missing</i>	<i>0</i>
<i>Mean</i>		<i>3.02</i>
<i>Median</i>		<i>3.17</i>
<i>Mode</i>		<i>3.75</i>
<i>Std. Deviation</i>		<i>.76</i>
<i>Variance</i>		<i>.58</i>
<i>Minimum</i>		<i>1.00</i>
<i>Maximum</i>		<i>4.50</i>
<i>Sum</i>		<i>1,206.42</i>

Note. The general statistical data for the general variable Attitudes to Drug Use prae.

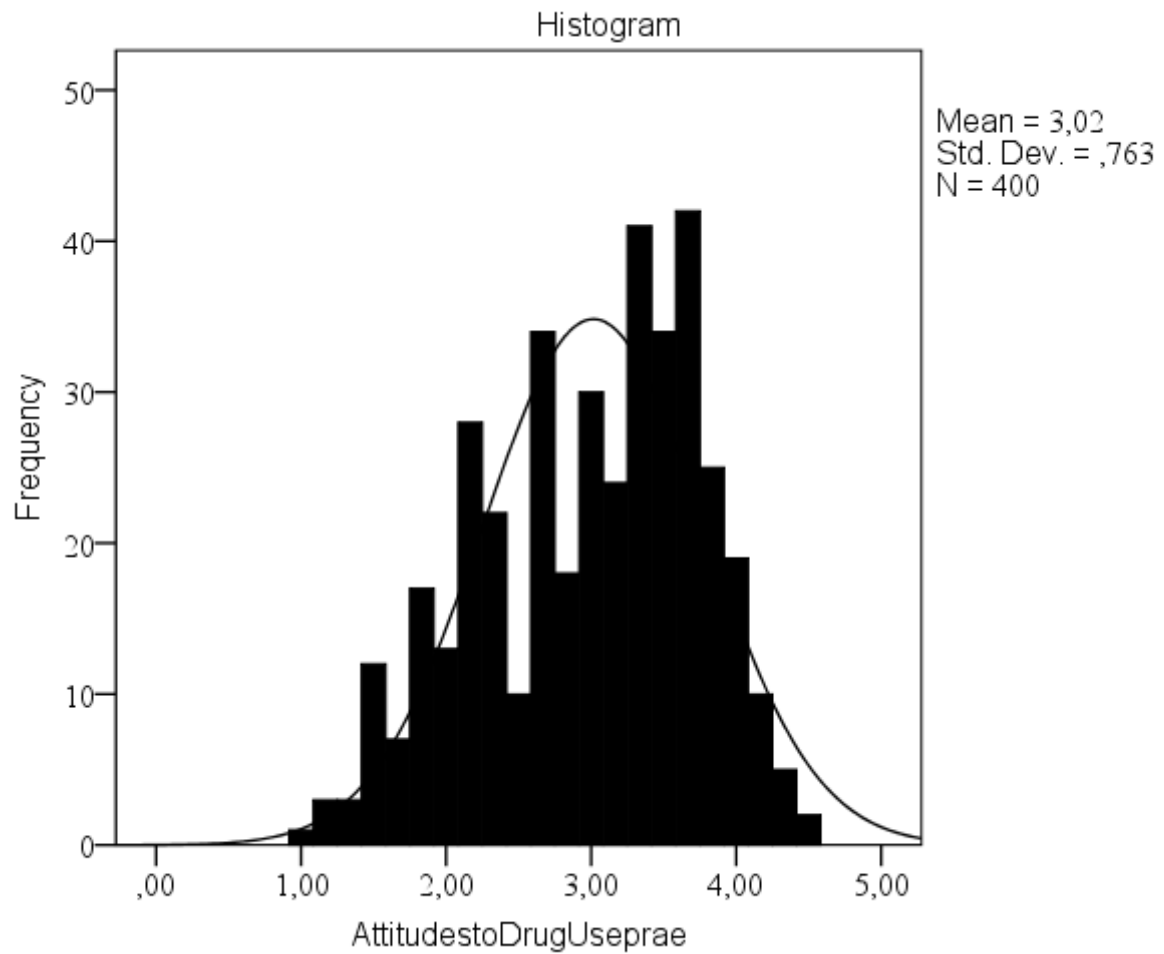


Figure 7. Histogram for the variable Attitudes to Drug Use prae. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the more positive is the attitude to illegal psychoactive substance use.

Beliefs about Consequences

This variable provides Beliefs about Consequences prae (BeliefsaboutConsequencesprae) as a general variable and the variables Beliefs about Negative Consequences prae and Beliefs about Positive Consequences prae with only the negative or the positive consequence items calculated. Each variable was calculated with the mean score. The higher the mean score the more positive and less negative consequences the participant tends to expect when he or she consumes illegal psychoactive substances in the next month as he or she states in this questionnaire. The lower the score the less positive and the more negative consequences are expected by the participants after consuming illegal psychoactive substances. Table 32 presents the general statistics for this variable.

Table 32: *General Statistics for Beliefs about Consequences Associated with Drug Use*

		<i>Beliefs about</i>	<i>Beliefs about</i>
		<i>Negative</i>	<i>Positive</i>
		<i>Beliefs about</i>	<i>Conse-</i>
		<i>Consequenc</i>	<i>quences</i>
		<i>es prae</i>	<i>prae</i>
<i>N</i>	<i>Valid</i>	400	400
	<i>Missing</i>	0	0
<i>Mean</i>		3.41	3.96
<i>Median</i>		3.57	4.13
<i>Mode</i>		3.29	5.00
<i>Std. Deviation</i>		.64	.97
<i>Variance</i>		.41	.94
<i>Minimum</i>		1.29	1.13
<i>Maximum</i>		4.71	5.00
<i>Sum</i>		1,365.93	1,583.38

Note. The general statistical data for the general variable Beliefs about Consequences prae, Beliefs about Negative Consequences prae, and Beliefs about Positive Consequences prae.

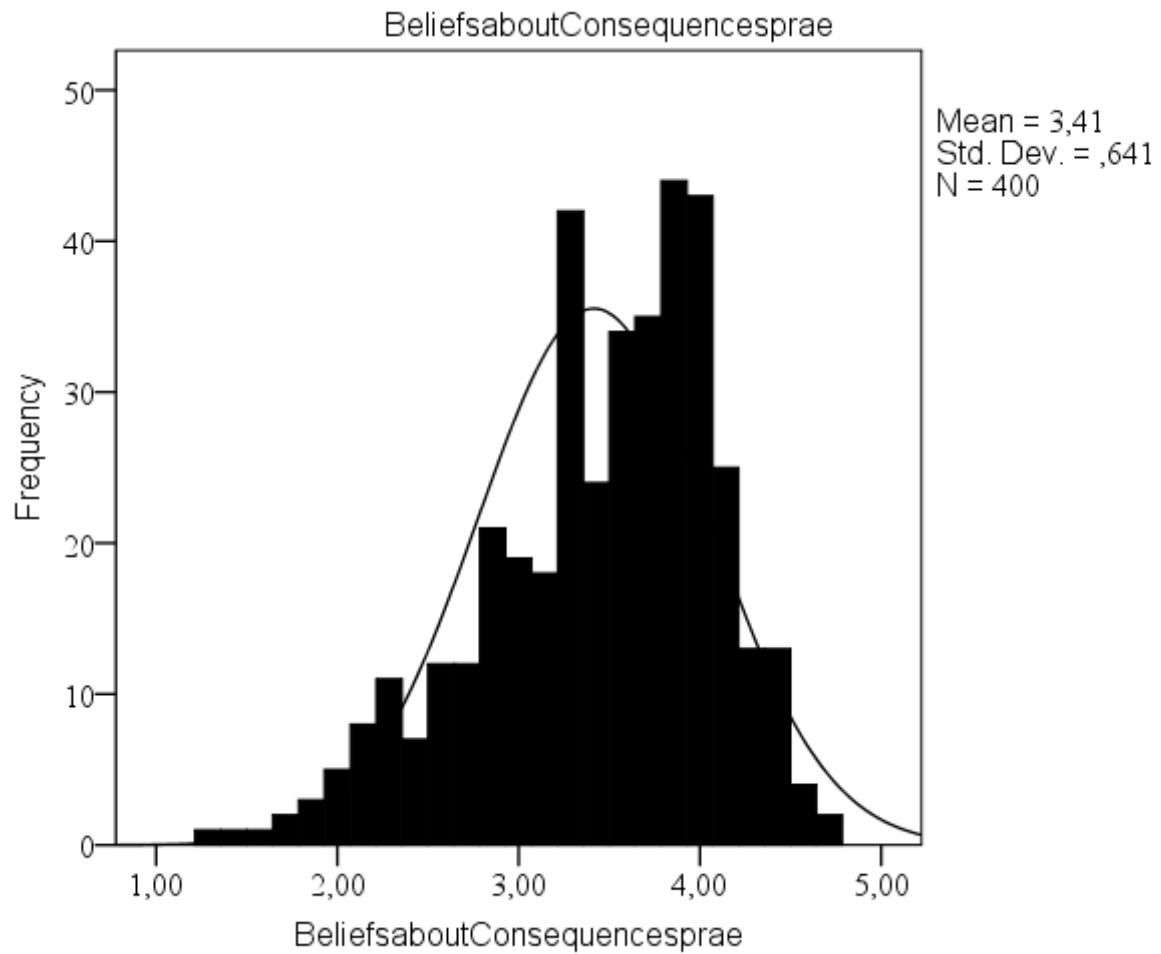


Figure 8. Histogram for the variable Beliefs about Consequences prae (BeliefsaboutConsequencesprae). The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the more positive and the less negative beliefs about consequences associated with drug use stated by the participants.

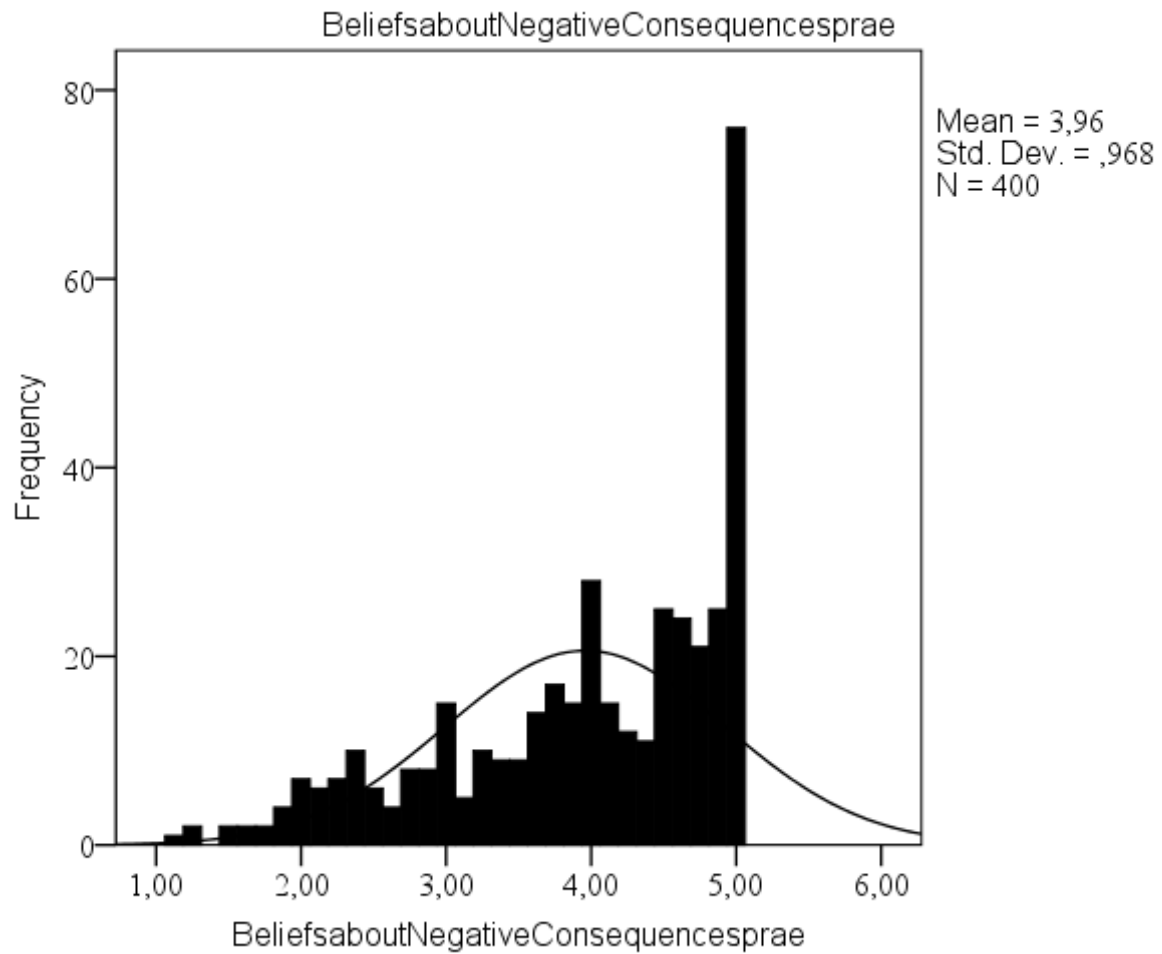


Figure 9. Histogram for the variable Beliefs about Negative Consequences prae (BeliefsaboutNegativeConsequencesprae). The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the less negative beliefs about consequences associated with drug use stated by the participants.

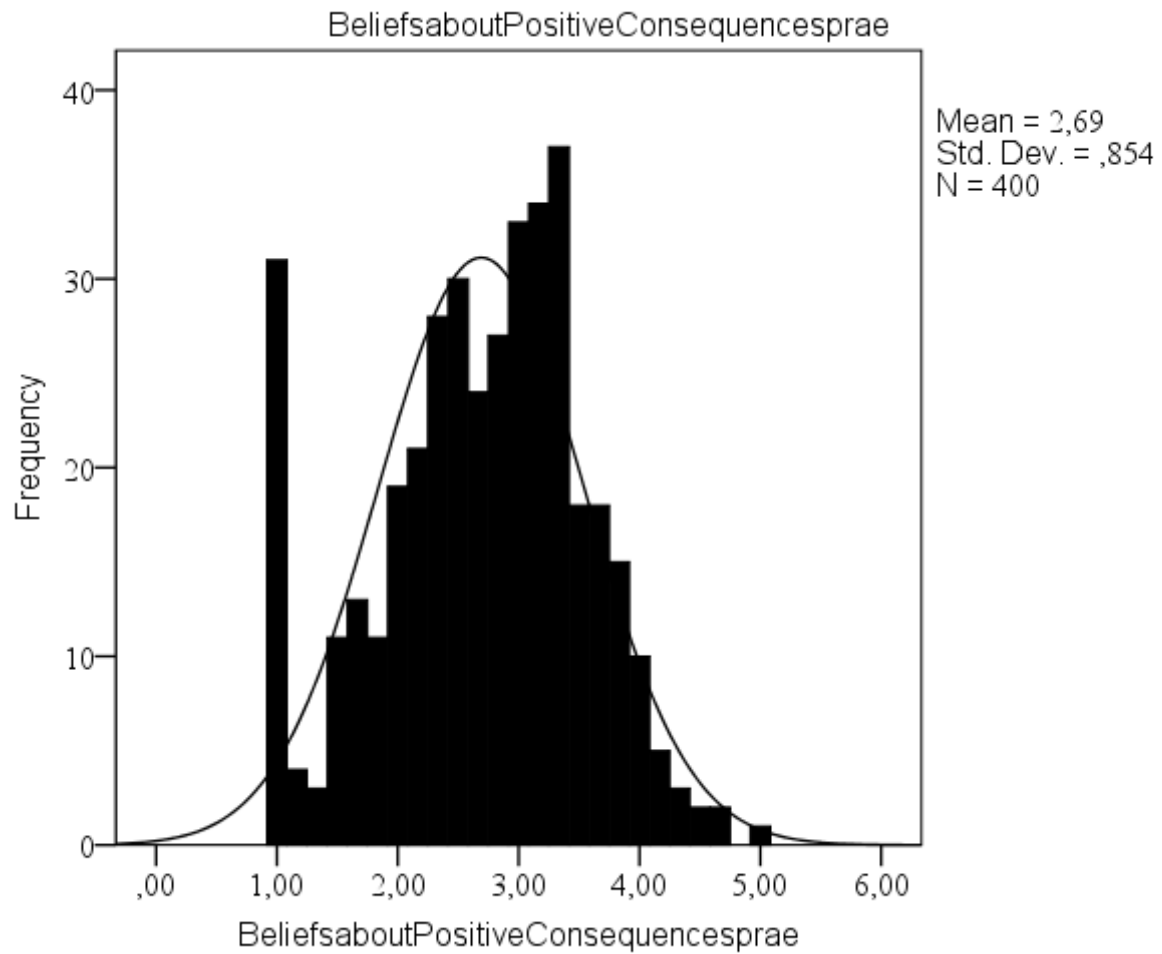


Figure 10. Histogram for Beliefs about Positive Consequences prae (BeliefsaboutPositiveConsequencesprae). The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the mean score of this variable. The higher the score the more positive beliefs about consequences associated with drug use stated by the participants.

Perception of Risks Associated with Drug Use

The variables and the factors of “Perception of Risks Associated with Drug Use” are closely associated with “Beliefs about Negative Consequences”. Because of the attention given to the risk concept this instrument merits separate treatment. In the example below the risk associated with occasional vs. frequent use are investigated. In addition, the focus lies on the difference between each of the psychoactive substances and also for the legal and the illegal substances and their associated risks. The answer “Hard to say” was eliminated and is stated as “Missing”.

A total of nine variables were provided through the calculated mean score: “Riskprae”, “RiskIllegalprae”, “RiskLegalprae”, “Riskoccprae”, RiskRegprae”, “RiskIllegalOccprae”, “RiskIllegalRegprae”, “RiskLegalOccprae”, and “RiskLegalRegprae”.

A higher score shows the tendency to a bigger risk associated with the consumption of psychoactive substances.

First, it will be presented which substances were not well known to the participants and when more than 20% of the participants answered “Hard to say”. The following psychoactive substances were shown not to be well known to the participants and are presented with the following tables 33 to table 37.

Table 33: How much risk is there that someone will harm themselves if they use solvents occasionally?

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>No Risk</i>	4	1.00	1.00	1.00
	<i>Small Risk</i>	28	7.00	7.00	8.00
	<i>Moderate Risk</i>	122	30.50	30.50	38.50
	<i>Big Risk</i>	150	37.50	37.50	76.00
	<i>Hard to Say</i>	96	24.00	24.00	100.00
	<i>Total</i>	400	100.00	100.00	

Note. Perception of Risks Associated with occasional Solvent Use. More than 20% of the participants stated “Hard to Say”.

Table 34: How much risk is there that someone will harm themselves if they use solvents regularly?

				Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	No Risk	3	.75	.75	.75
	Small Risk	4	1.00	1.00	1.75
	Moderate Risk	32	8.00	8.00	9.75
	Big Risk	261	65.25	65.25	75.00
	Hard to Say	100	25.00	25.00	100.00
	Total	400	100.00	100.00	

Note. Perception of Risks Associated with regular Solvent Use. More than 20% of the participants stated “Hard to Say”.

Table 35: How much risk is there that someone will harm themselves if they consume crack regularly?

				Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	No Risk	3	.75	.75	.75
	Small Risk	1	.25	.25	1.00
	Moderate Risk	3	.75	.75	1.75
	Big Risk	313	78.25	78.25	80.00
	Hard to Say	80	20.00	20.00	100.00
	Total	400	100.00	100.00	

Note. Perception of Risks Associated with regular Crack Use. More than 20% of the participants stated “Hard to Say”.

Table 36: How much risk is there that someone will harm themselves if they use tranquilizers/anxiolytic psychotropic drugs occasionally?

				Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	No Risk	6	1.50	1.50	1.50
	Small Risk	35	8.75	8.75	10.25
	Moderate Risk	97	24.25	24.25	34.50

<i>Big Risk</i>	<i>148</i>	<i>37.00</i>	<i>37.00</i>	<i>71.50</i>
<i>Hard to Say</i>	<i>114</i>	<i>28.50</i>	<i>28.50</i>	<i>100.00</i>
<i>Total</i>	<i>400</i>	<i>100.00</i>	<i>100.00</i>	

Note. Perception of Risks Associated with occasional Tranquilizers/Anxiolytic Psychotropic Drugs Use. More than 20% of the participants stated “Hard to Say”.

Table 37: How much risk is there that someone will harm themselves if they use tranquilizers/anxiolytic psychotropic drugs regularly?

				<i>Valid</i>	<i>Cumulative</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
<i>Valid</i>	<i>No Risk</i>	<i>1</i>	<i>.25</i>	<i>.25</i>	<i>.25</i>
	<i>Small Risk</i>	<i>6</i>	<i>1.50</i>	<i>1.50</i>	<i>1.75</i>
	<i>Moderate Risk</i>	<i>28</i>	<i>7.00</i>	<i>7.00</i>	<i>8.75</i>
	<i>Big Risk</i>	<i>248</i>	<i>62.00</i>	<i>62.00</i>	<i>70.75</i>
	<i>Hard to Say</i>	<i>117</i>	<i>29.25</i>	<i>29.25</i>	<i>100.00</i>
	<i>Total</i>	<i>400</i>	<i>100.00</i>	<i>100.00</i>	

Note. Perception of Risks Associated with regular Tranquilizers/Anxiolytic Psychotropic Drugs Use. More than 20% of the participants stated “Hard to Say”.

More than 20% of the participants answered “Hard to Say” for the perception of risks associated with regular and occasional solvent consumption, regular crack consumption, and occasional and regular tranquilizer/anxiolytic psychotropic drug consumption. Solvents are legal psychoactive substances. According to Flanagan, Streete, & Ramsey (1997) solvents are domestic products such as spray deodorants, glue, lighter refills and spray air fresheners and can be used as psychoactive substances. Solvent substance use may be defined as the deliberate inhalation of volatile compounds to produce psychoactive effects.

A high number of participants had less knowledge about the use of tranquilizers or anxiolytic psychotropic drugs. They are often called “benzodiazepines” and are widely used in medicine for the treatment of anxiety (anxiolytics) and insomnia (sedative/hypnotics), as well as other psychological conditions such as panic attacks and panic disorders (EMCDDA, 2008). They are only legal if prescribed.

Table 38: General Statistics for “Riskprae“, “RiskLegalprae“, “RisklegalOccprae“, and “RiskLegalRegprae“

		RiskLegalprae	RiskLegalOc	RiskLegalRe
		ae	crae	gprae
N	Valid	399	399	399
	Missing	1	1	3
Mean		3.33	3.43	3.09
Median		3.38	3.50	3.00
Mode		3.67	3.57	3.00
Std. Deviation		.40	.39	.55
Variance		.16	.15	.30
Minimum		1.00	1.00	1.00
Maximum		4.00	4.00	4.00
Sum		1,327.52	1,368.60	1,232.17

Note. General Statistics for Perception of Risks associated with drug use (“Riskprae”), legal drug use (“RiskLegalprae”), occasional legal drug use (“RiskLegalOccprae”), and regular legal drug use (“RiskLegalRegprae”).

Table 39: General Statistics for “RiskIllegalprae“, “RiskIllegalOccprae“, “RiskIllegalReglyprae“, Riskregularprae“, and “RiskOccprae“

		RiskIllegalprae	RiskIllegalOccprae	RiskIllegalReglyprae	Riskregularprae	RiskOccprae
N	Valid	399	398	397	398	399
	Missing	1	2	3	2	1
Mean		3.24	2.89	3.58	3.64	2.98
Median		3.36	3.00	3.71	3.73	3.00
Mode		3.79	3.00	4.00	4.00	3.00
Std. Deviation		.57	.72	.51	.36	.54
Variance		.33	.51	.26	.13	.29
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		4.00	4.00	4.00	4.00	4.00
Sum		1,293.63	1,151.06	1,422.92	1,448.56	1,189.23

Note. General Statistics for Perception of Risks associated with illegal drug use (“RiskIllegalprae”), occasional illegal drug use (“RiskIllegalOccprae”), regular illegal drug use (“RiskIllegalRegprae”), regular drug use (“RiskRegprae”), and occasional drug use (“RiskOccprae”)

DUDIT – Drug Use Disorders Identification Test

The authors of this instrument, Berman, Bergman, Palmstierna, and Schlyter (2007) present “DUDIT” as a simple self-report screening instrument focusing on current drug-related problems and facilitating comparisons between different groups. The summation score provides a general variable for the consumption of illegal psychoactive substances of the participants. Table 40 presents the general statistics for the Drug Use Disorders Identification Test in Sample 1.

Table 40: General Statistics for DUDIT

<i>N</i>	<i>Valid</i>	<i>400</i>
	<i>Missing</i>	<i>0</i>
<i>Mean</i>		<i>6.24</i>
<i>Median</i>		<i>4.00</i>
<i>Mode</i>		<i>.00</i>
<i>Std. Deviation</i>		<i>7.03</i>
<i>Variance</i>		<i>49.41</i>
<i>Minimum</i>		<i>.00</i>
<i>Maximum</i>		<i>37.00</i>
<i>Sum</i>		<i>2,497.00</i>

Note. General Statistics for the DUDIT.

Table 41: Group Statistics for DUDIT

			<i>Std.</i>	<i>Std.</i>	<i>Error</i>
	<i>Questionnaire</i>	<i>N</i>	<i>Mean</i>	<i>Deviation</i>	<i>Mean</i>
<i>DUDIT</i>	<i>Informative</i>	<i>199</i>	<i>5.89</i>	<i>7.07</i>	<i>.50</i>
	<i>Shocking</i>	<i>201</i>	<i>6.59</i>	<i>6.99</i>	<i>.49</i>

Note. Group Statistics for the DUDIT.

The independent samples t-test showed no significant differences between the shocking and the informative video sample.

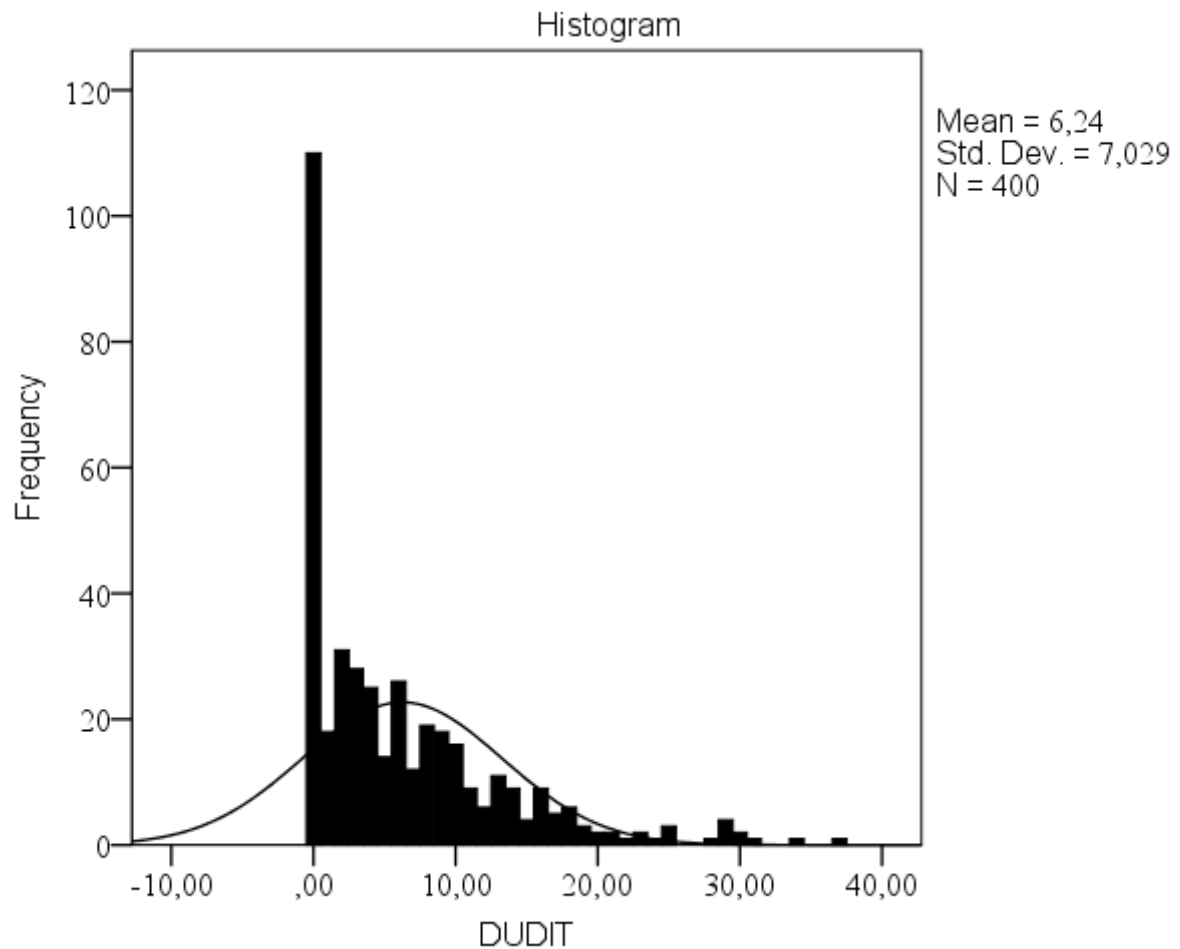


Figure 11. Histogram for the Drug Use Disorders Identification Test (DUDIT). The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the summation score of this variable. The higher the score the more drug-related problems and the higher the consumption of illegal psychoactive substances stated by the participants.

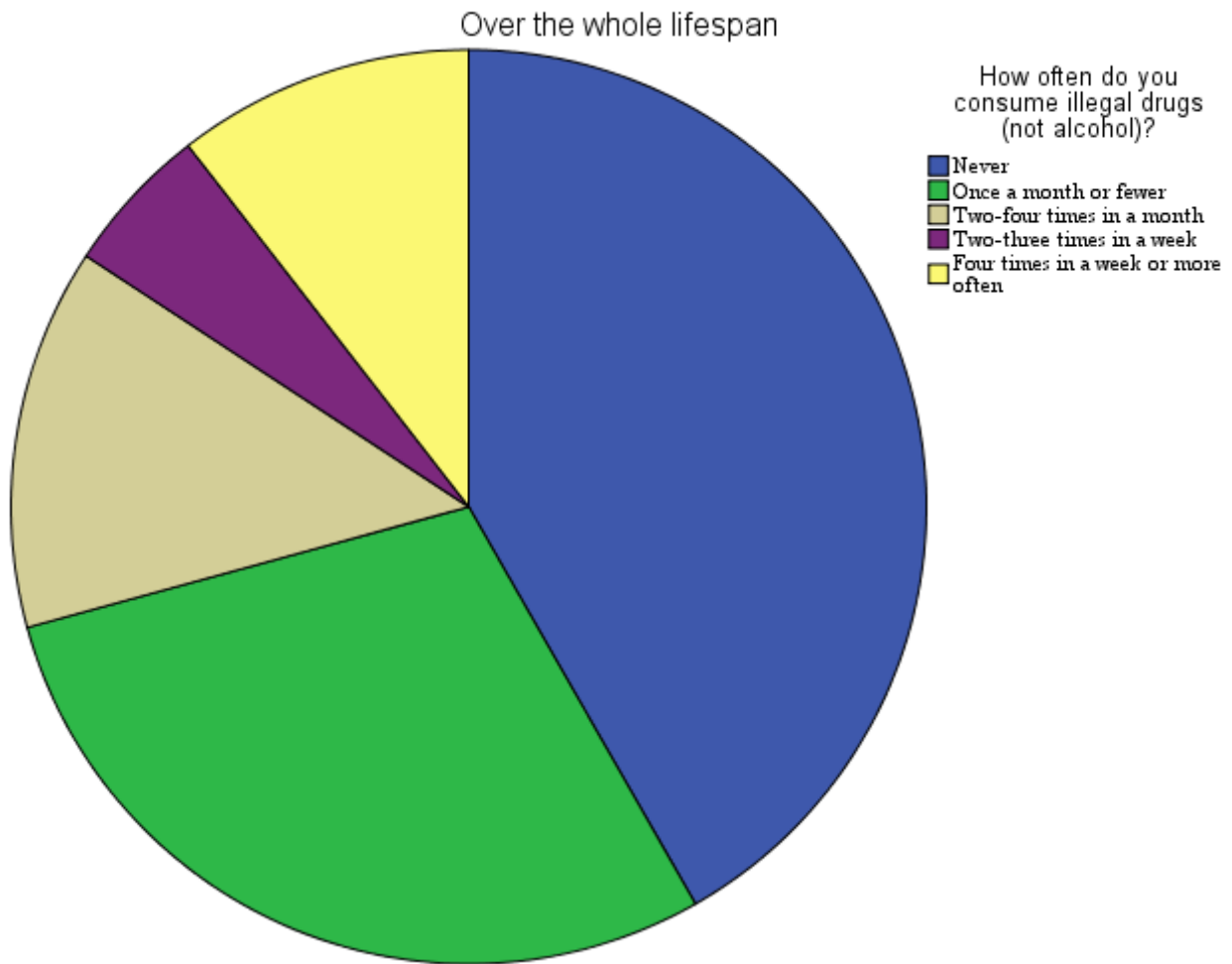


Figure 12. Circular diagram for the question “How often do you use illegal drugs over the whole lifespan?”. This diagram provides a good overview on Sample 1. More than half of the participants state to have consumed an illegal psychoactive substance at least once. Around a third tends to consume it more often than once in a month.

This first question of the Drug Use Disorders Identification Test (DUDIT) provides an overview for the participants of Sample 1 and their tendency to consume illegal psychoactive substances.

Sensation Seeking

This instrument, the German version of the Sensation Seeking Scale by Beauducel, Strobel, & Brocke (2003) provides the variables Sensation Seeking, Thrill and Adventure Seeking (TAS), Experience Seeking (ES), Disinhibition (DIS) and Boredom Susceptibility (BS) and was calculated with the summation score. Scoring ranges from “0” to “10” on each subscale, for a range of “0” to “40” on the complete SSS-V. A higher score stands for a higher level in sensation seeking.

Table 42: General Statistics for Sensation Seeking and the sub-variables “SS-Thrill and Adventure Seeking”, “SS-Experience Seeking”, “SS-Disinhibition” and “SS-Boredom Susceptibility”

		<i>Sensation</i>				
		<i>Seeking</i>	<i>TAS</i>	<i>ES</i>	<i>BS</i>	<i>DIS</i>
<i>N</i>	<i>Valid</i>	<i>400</i>	<i>400</i>	<i>400</i>	<i>400</i>	<i>400</i>
	<i>Missing</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Mean</i>		<i>21.90</i>	<i>6.08</i>	<i>6.79</i>	<i>3.99</i>	<i>5.05</i>
<i>Median</i>		<i>22.00</i>	<i>6.00</i>	<i>7.00</i>	<i>4.00</i>	<i>5.00</i>
<i>Mode</i>		<i>22.00</i>	<i>9.00</i>	<i>7.00</i>	<i>4.00</i>	<i>7.00</i>
<i>Std. Deviation</i>		<i>6.20</i>	<i>2.80</i>	<i>1.85</i>	<i>2.02</i>	<i>2.24</i>
<i>Variance</i>		<i>38.38</i>	<i>7.85</i>	<i>3.43</i>	<i>4.10</i>	<i>5.01</i>
<i>Minimum</i>		<i>5.00</i>	<i>.00</i>	<i>1.00</i>	<i>.00</i>	<i>.00</i>
<i>Maximum</i>		<i>36.00</i>	<i>10.00</i>	<i>10.00</i>	<i>9.00</i>	<i>10.00</i>
<i>Sum</i>		<i>8,761.00</i>	<i>2,430.00</i>	<i>2,716.00</i>	<i>1,595.00</i>	<i>2,020.00</i>

Note. General Statistics for the Sensation Seeking and the sub-variables. Sensation Seeking is the general variable of sensation seeking, “TAS” stands for the sub-variable “Thrill and Adventure Seeking”, “ES” stands for the sub-variable “Experience Seeking”, “BS” stands for the sub-variable “Boredom Susceptibility”, and “DIS” stands for the sub-variable “Disinhibition”.

An independent samples t-test was calculated between the different questionnaire versions. No significant effect or difference was shown.

Table 43: Group Statistics for Sensation Seeking and its Sub-Variables

	Questionnaire	N	Mean	Std. Deviation	Std. Error
Sensation Seeking	Informative	199	22.20	6.33	.45
	Shocking	201	21.61	6.06	.43
TAS	Informative	199	6.19	2.84	.20
	Shocking	201	5.96	2.77	.20
ES	Informative	199	6.79	1.80	.13
	Shocking	201	6.79	1.91	.13
BS	Informative	199	4.06	2.07	.15
	Shocking	201	3.92	1.98	.14
DIS	Informative	199	5.16	2.25	.16
	Shocking	201	4.94	2.23	.16

Note. General Statistics for the Sensation Seeking and the sub-variables compared for the two different questionnaire versions. Sensation Seeking is the general variable of sensation seeking, “TAS” stands for the sub-variable “Thrill and Adventure Seeking”, “ES” stands for the sub-variable “Experience Seeking”, “BS” stands for the sub-variable “Boredom Susceptibility”, and “DIS” stands for the sub-variable “Disinhibition”. “Informative” indicates the informative video version and “Shocking” indicated the shocking video version.

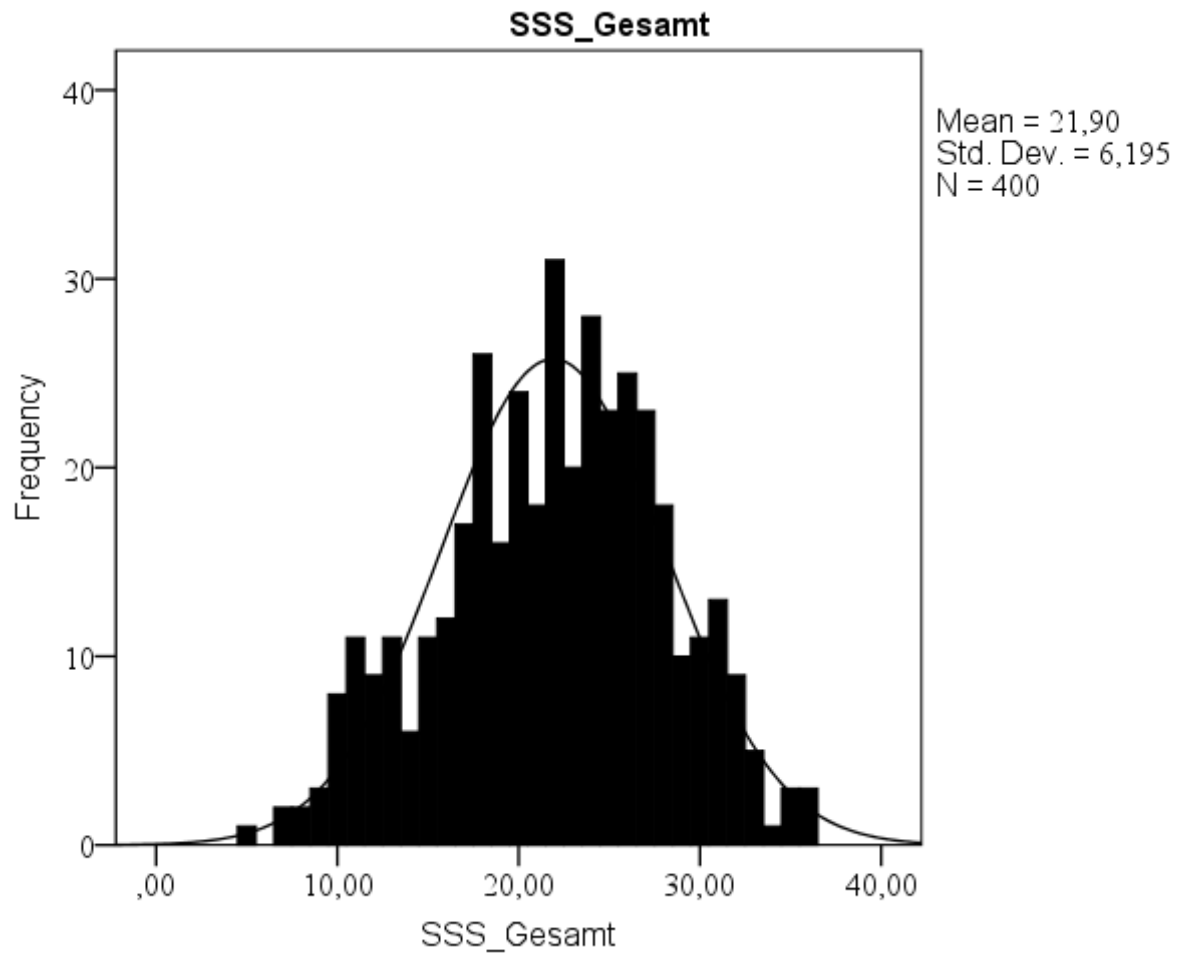


Figure 13. Histogram for Sensation Seeking (SSS_Gesamt). The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the summation score of this variable. The higher the score the more the participants tend to be sensation seekers than others. “SSS_Gesamt” stands for the general variable of sensation seeking.

Narcissism

The German version of the Narcissistic Personality Inventory NPI by Triller (2003) provided a general variable for the factor narcissism. The general statistics are presented in table 44.

Table 44: General Statistics for Narcissism NPI

<i>N</i>	<i>Valid</i>	<i>400</i>
	<i>Missing</i>	<i>0</i>
<i>Mean</i>		<i>57.83</i>
<i>Median</i>		<i>58.50</i>
<i>Mode</i>		<i>60.00</i>
<i>Std. Deviation</i>		<i>11.41</i>
<i>Variance</i>		<i>130.28</i>
<i>Minimum</i>		<i>22.00</i>
<i>Maximum</i>		<i>87.00</i>
<i>Sum</i>		<i>23,130.00</i>

Note. General Statistics the variable narcissism measured with the NPI.

To test if the NPI was normally distributed, the Kolmogorov-Smirnov Test was conducted, which shows the normal distribution. The null hypothesis can be retained. The distribution of the NPI is normal with mean 57.83 and standard deviation 11.41. Table 45 shows the statistical outcome.

Table 45: One-Sample Kolmogorov-Smirnov Test for NPI

<i>NPI</i>		
<i>N</i>		<i>400</i>
<i>Normal</i>	<i>Mean</i>	<i>57.83</i>
<i>Parameters^{a,b}</i>	<i>Std. Deviation</i>	<i>11.41</i>
<i>Most Extreme Absolute</i>		<i>.04</i>
<i>Differences</i>	<i>Positive</i>	<i>.04</i>
	<i>Negative</i>	<i>-.04</i>
<i>Test Statistic</i>		<i>.04</i>
<i>Asymp. Sig. (2-tailed)</i>		<i>.10^c</i>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Note. Kolmogorov-Smirnov Test to test the normal distribution of the NPI. The null hypothesis can be retained and the distribution is therefore normal.

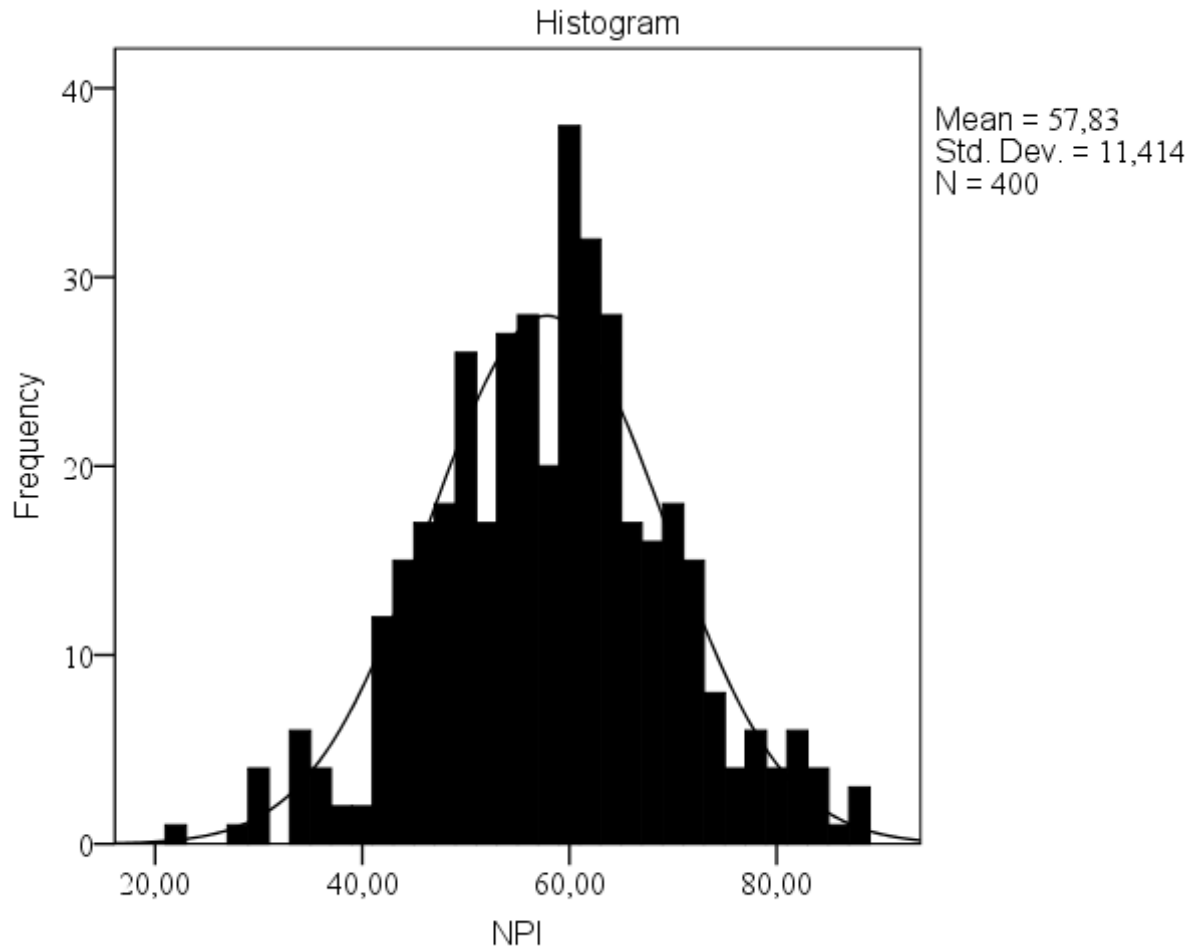


Figure 14. Histogram for Narcissism (NPI). The normal distribution can be seen. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the summation score of this variable. The higher the score the higher the score in the NPI.

Video

Hereafter the randomized video was shown. The informative video “I” lasted 569 seconds and the shocking video “S” lasted 420 seconds. 75% had to be watched, all the other participants are quoted as video dropouts. 75% for the shocking video were a minimum of 427 seconds and a minimum of 315 seconds for the shocking video. The participants having watched the full video are coded as “0”, the participants who watched at least 75% of the video are coded as “2” and the dropouts are coded as “1”. The general statistics of the videos is presented in the diagram. “No” means the participants watched at least the full length of the video. Table 46 shows the general statistics for the video dropout.

Table 46: General Statistics for Video Dropout

*Used Questionnaire * Video Dropout Crosstabulation*

			Video Dropout			
			No	Yes	min. 75%	Total
Used Questionnaire	Informative	Count	137	58	4	199
		% within Used Questionnaire	68.84	29.15	2.01	100.00
		% within Videoabbruch	47.08	61.70	26.67	49.75
		% of Total	34.25	14.50	1.00	49.75
	Shocking	Count	154	36	11	201
		% within Used Questionnaire	76.62	17.91	5.47	100.00
		% within Videoabbruch	52.92	38.30	73.33	50.25
		% of Total	38.50	9.00	2.75	50.25
	Total	Count	291	94	15	400
		% within Used Questionnaire	72.75	23.50	3.75	100.00
% within Videoabbruch		100.00	100.00	100.00	100.00	
% of Total		72.75	23.50	3.75	100.00	

Note. General Statistics the variable the frequency of the dropout during the video.

A total amount of 58 participants did not watch at least 75% of the informative video and clicked to the next page as it were only 36 for the shocking video.

In a second, a new coding was calculated. All the participants having watched at least 75% of the video were coded as “0” and all the others as video dropouts “1”. Furthermore, the two questionnaires are being compared in their total video dropouts with the chi-square tests.

Table 47: Chi-Square Tests for Video Dropout Between the Versions

		<i>Chi-Square Tests</i>		
		Value	df	Sig.
				(2-sided)
				(1-sided)
Pearson	Chi-Square	7.02 ^a	1.00	.01
	Continuity	6.41	1.00	.01
	Correction ^b			
	Likelihood	7.07	1.00	.01
	Ratio			
Fisher's	Exact			.01
	Test			.01
N	of Valid	400		
	Cases			

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 46,77.

b. Computed only for a 2x2 table

Note. Chi-Square Test for the dropout rate in the different video versions. The video dropout rates did differ by the watched video, $\chi^2(1, N = 400) = 7.02, p = .01$.

Table 48: General Statistics for Video Dropout in Total

*Video Dropout Total * Used Questionnaire Crosstabulation*

		<i>Used Questionnaire</i>		
		<i>Informative</i>		
		<i>e</i>	<i>Shocking</i>	<i>Total</i>
<i>Video Dropout No</i>	<i>Count</i>	141	165	306
<i>Total</i>	<i>% within Video Dropout Total</i>	46.08	53.92	100.00
	<i>% within Used Questionnaire</i>	70.85	82.09	76.50
	<i>% of Total</i>	35.25	41.25	76.50
<i>Yes</i>	<i>Count</i>	58	36	94
	<i>% within Video Dropout Total</i>	61.70	38.30	100.00
	<i>% within Used Questionnaire</i>	29.15	17.91	23.50
	<i>% of Total</i>	14.50	9.00	23.50
<i>Total</i>	<i>Count</i>	199	201	400
	<i>% within Video Dropout Total</i>	49.75	50.25	100.00
	<i>% within Used Questionnaire</i>	100.00	100.00	100.00
	<i>% of Total</i>	49.75	50.25	100.00

Note. General statistics for the video dropout in the different video versions without to count the participants who have watched at least 75% of the video. They are counted here as “No Videodropout”. The trend can be seen, that the informative video provided more dropouts and less participants have watched at least 75% of the informative video and went to the next page of the questionnaire.

Affects

Straight after the video, a series of questions were asked to measure the felt affects by the participants. The factors are how shocking, how informative, how interesting, if worth watching, if also suitable for minors, how emotional, and how boring the participants valued the different videos. The higher the score, the higher the stated affect. In addition, they were asked how they felt after watching the video in general and how they were able to concentrate. "Informative" is coded for the informative video and "Shocking" for the shocking version. Table 49 and table 50 presents the general statistics for the affects.

Table 49: General Statistics for the Affects „Shocking“, „Informative“, „Interesting“, and „Worth Watching“

		Affects- Shocking	Affects- Informative	Affects- Interesting	Affects- Worth Watching
<i>Informative</i>	<i>Mean</i>	1.81	5.07	4.71	4.34
	<i>N</i>	199	199	199	199
	<i>Std. Deviation</i>	1.21	1.17	1.30	1.36
<i>Shocking</i>	<i>Mean</i>	3.91	4.54	4.46	4.23
	<i>N</i>	201	201	201	201
	<i>Std. Deviation</i>	1.57	1.47	1.43	1.54
<i>Total</i>	<i>Mean</i>	2.87	4.80	4.58	4.28
	<i>N</i>	400	400	400	400
	<i>Std. Deviation</i>	1.75	1.35	1.37	1.45

Note. General statistics for the affects stated after the different video versions. The trend is that the shocking video was more shocking, less informative, less interesting, and less worth watching than the informative video as stated by the participants.

Table 50: General Statistics for the Affects „Suitable for Minors”, “Emotional“, „Boring“, “Feeling after the video”, and „Concentration”

		Affects-			Feeling	
Questionnaire		Suitable for Minors	Affects- Emotional	Affects- Boring	after the video	the Concentration
Informative	Mean	4.43	2.09	2.86	4.33	4.43
	N	199	199	199	199	199
	Std. Deviation	1.46	1.12	1.50	.97	1.44
Shocking	Mean	3.97	3.58	2.28	3.85	4.96
	N	201	201	201	201	201
	Std. Deviation	1.59	1.54	1.32	1.08	1.25
Total	Mean	4.20	2.83	2.57	4.09	4.70
	N	400	400	400	400	400
	Std. Deviation	1.54	1.54	1.44	1.05	1.37

Note. General statistics for the affects stated after the different video versions. The trend is that the shocking video was stated to be less suitable for minors and less boring than the informative video. On the other hand, the participants rated the informative video as less emotional. Furthermore, the participants tend to feel better after the informative video, but they were able to concentrate better watching the shocking video.

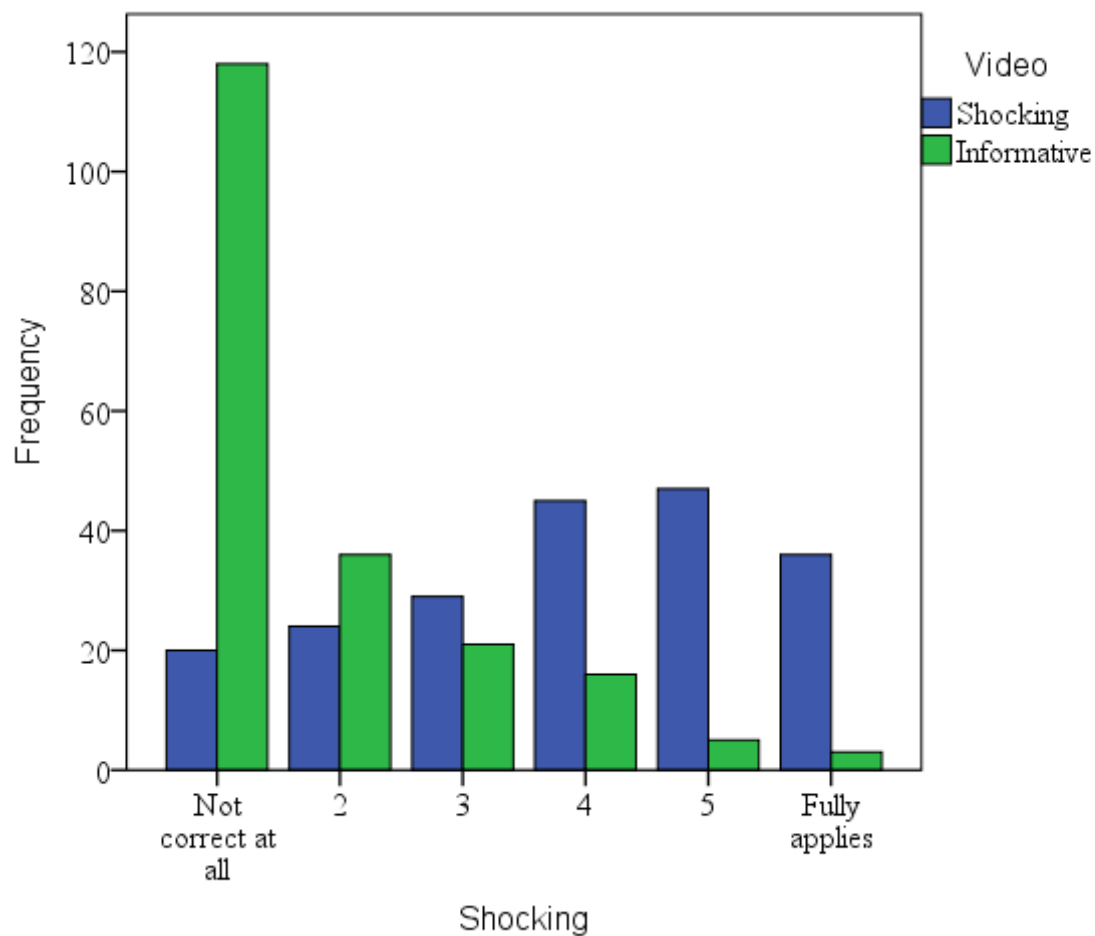


Figure 15. Bar Chart showing the affect “Shocking” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as shocking.

The participants evaluated the informative video as not very shocking, whereas the shocking video tended to be more shocking as the language and the name appraises. This data supports the differences in the videos and the data won in the pilot-questioning.

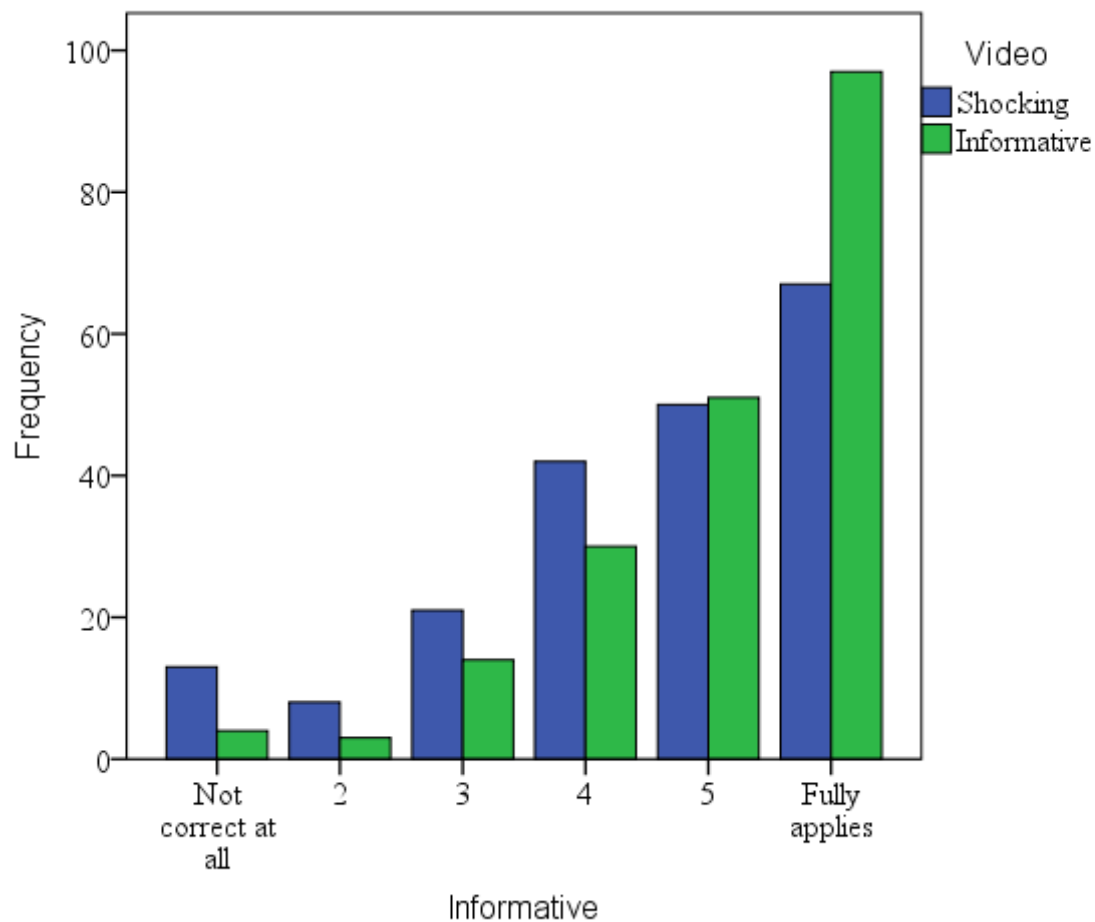


Figure 16. Bar Chart showing the affect “Informative” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as informative.

The differences in the affect “informative” are not very large. The informative video tends to be valued as more informative as proposed.

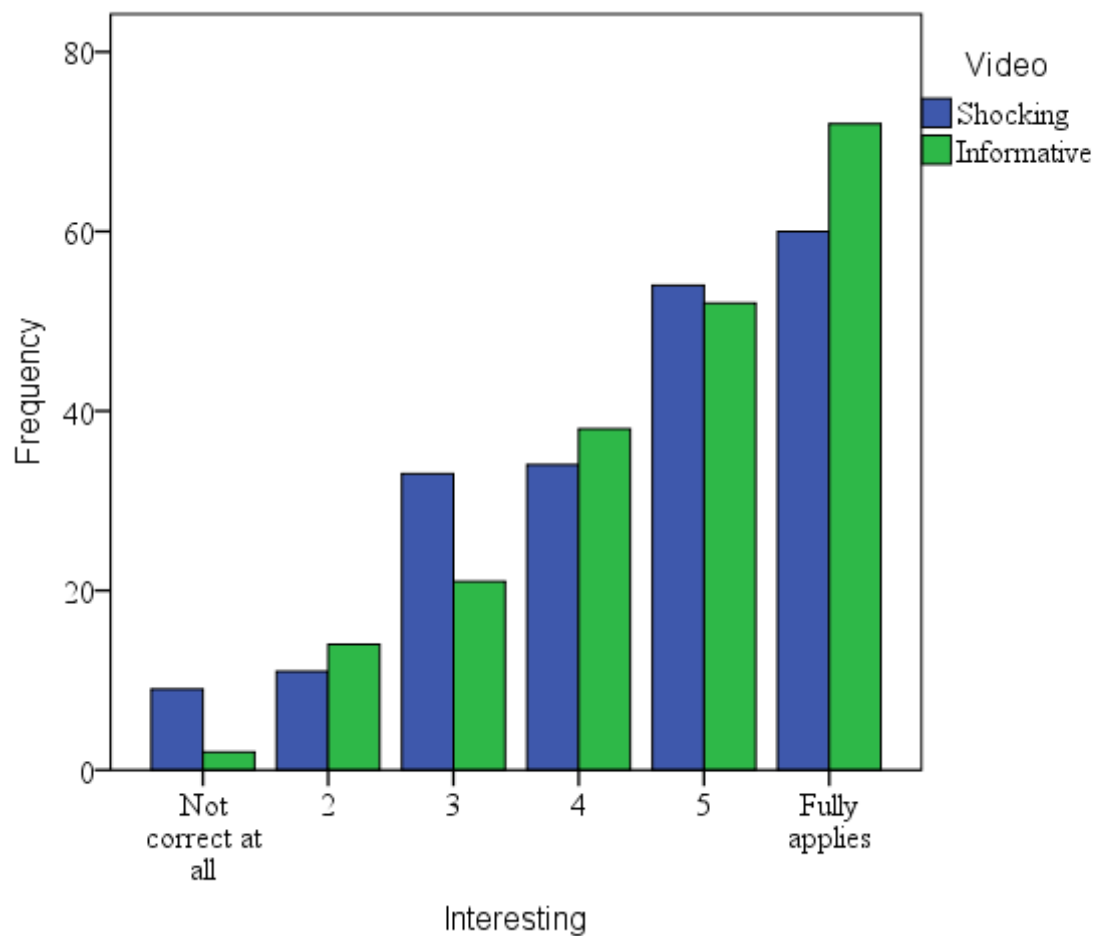


Figure 17. Bar Chart showing the affect “Interesting” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as interesting.

The participants interpreted both videos as equally interesting and the differences between each of them were not very high.

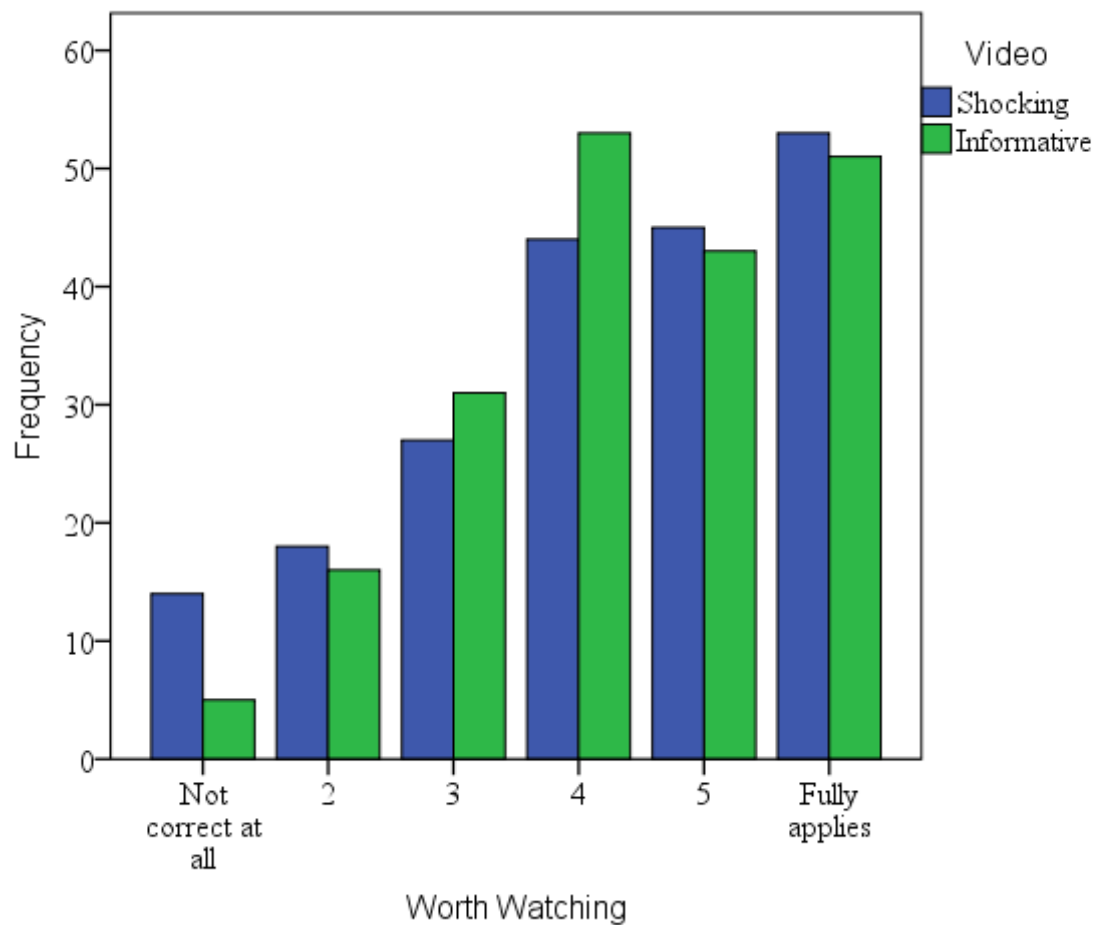


Figure 18. Bar Chart showing the affect “Worth Watching” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as worth watching.

The informative version was evaluated as more watchable, but the differences are still very low.

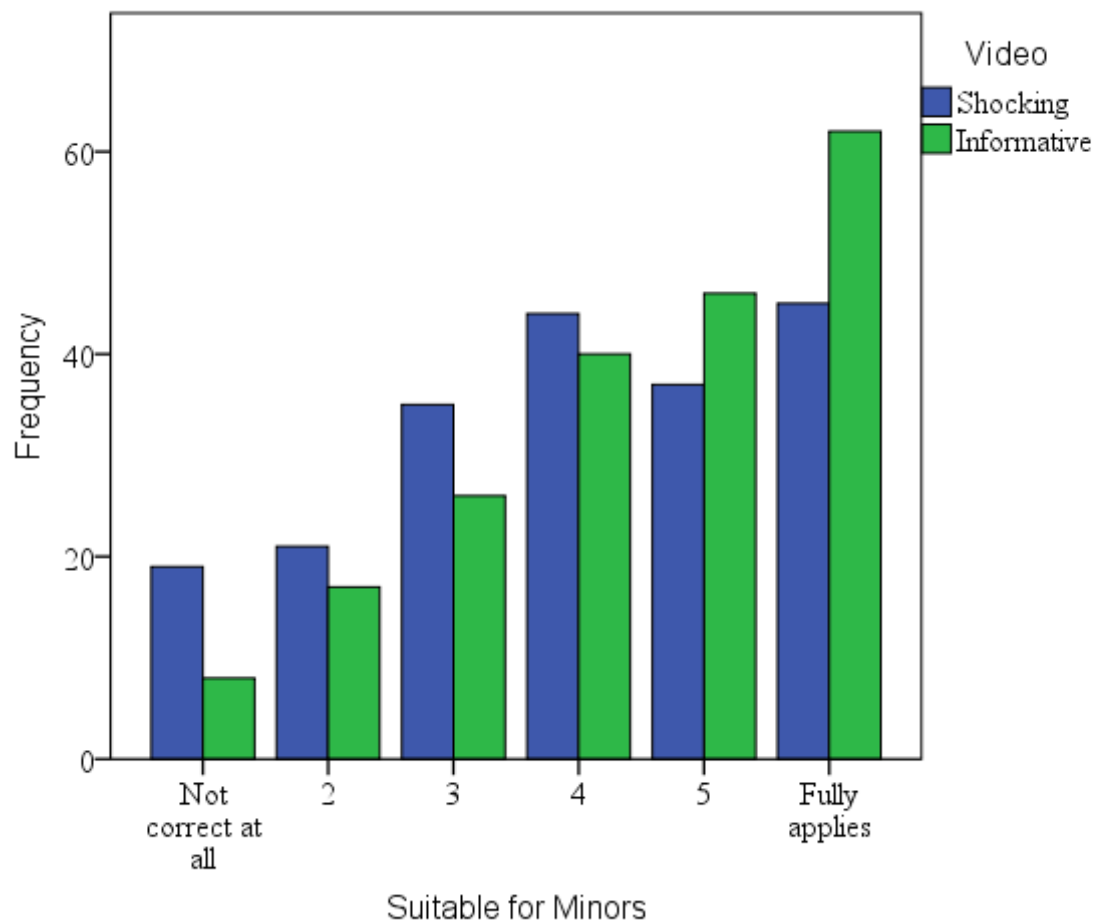


Figure 19. Bar Chart showing the affect “Suitable for Minors” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as suitable for minors.

The bar chart provides data that the informative video tends to be valued as more suitable for minors. It is also shown, that more participants valued the shocking video as not suitable for minors at all.

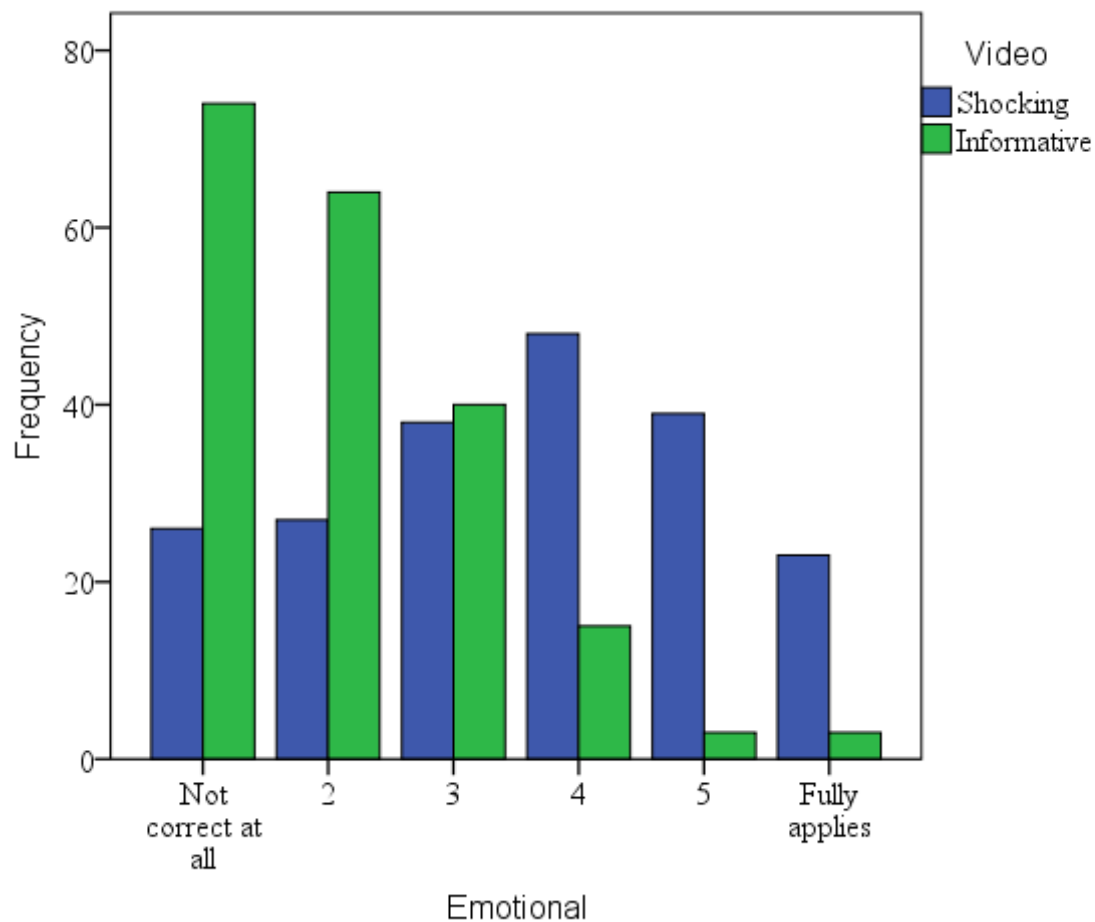


Figure 20. Bar Chart showing the affect “Emotional” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as emotional.

As expected, the shocking video was interpreted as more emotional by the participants.

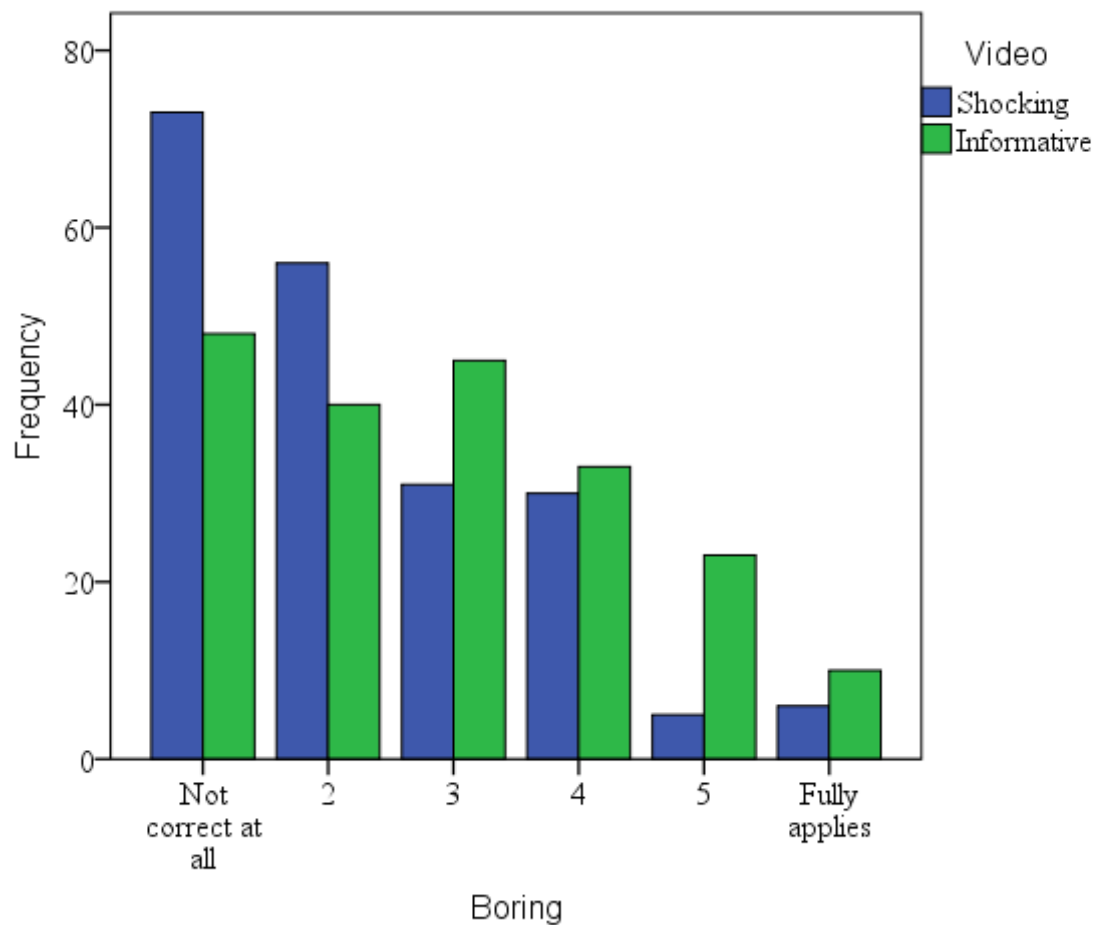


Figure 21. Bar Chart showing the affect “Boring” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Not correct at all” to “6” as “Fully applies” on the question if the participants felt or experienced the videos as boring.

Both videos were valued as not boring. Still, the informative video was shown to be more boring than the shocking version.

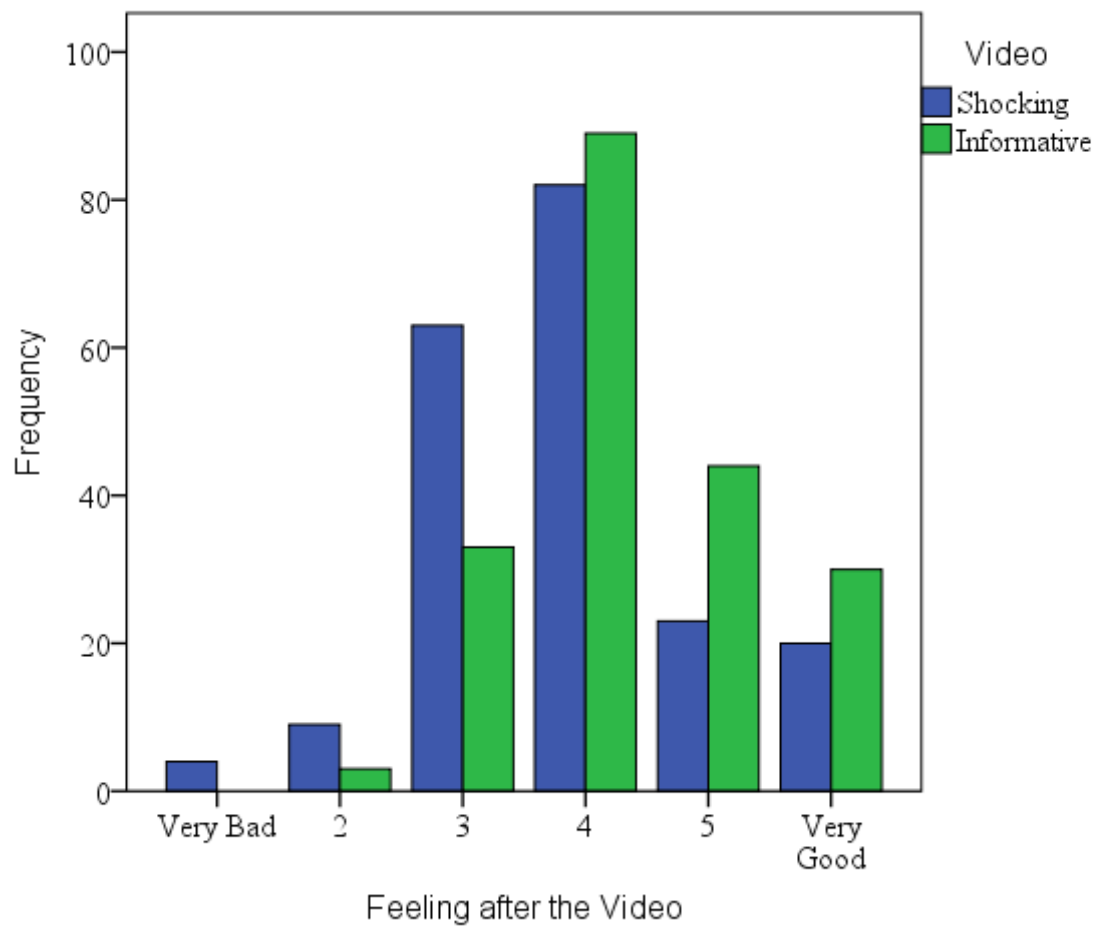


Figure 22. Bar Chart showing the affect “Feeling after the Video” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Very Bad” to “6” as “Very Good” on the question how the participants felt or experienced the videos.

The participants stated to feel better after the informative video than after the shocking video.

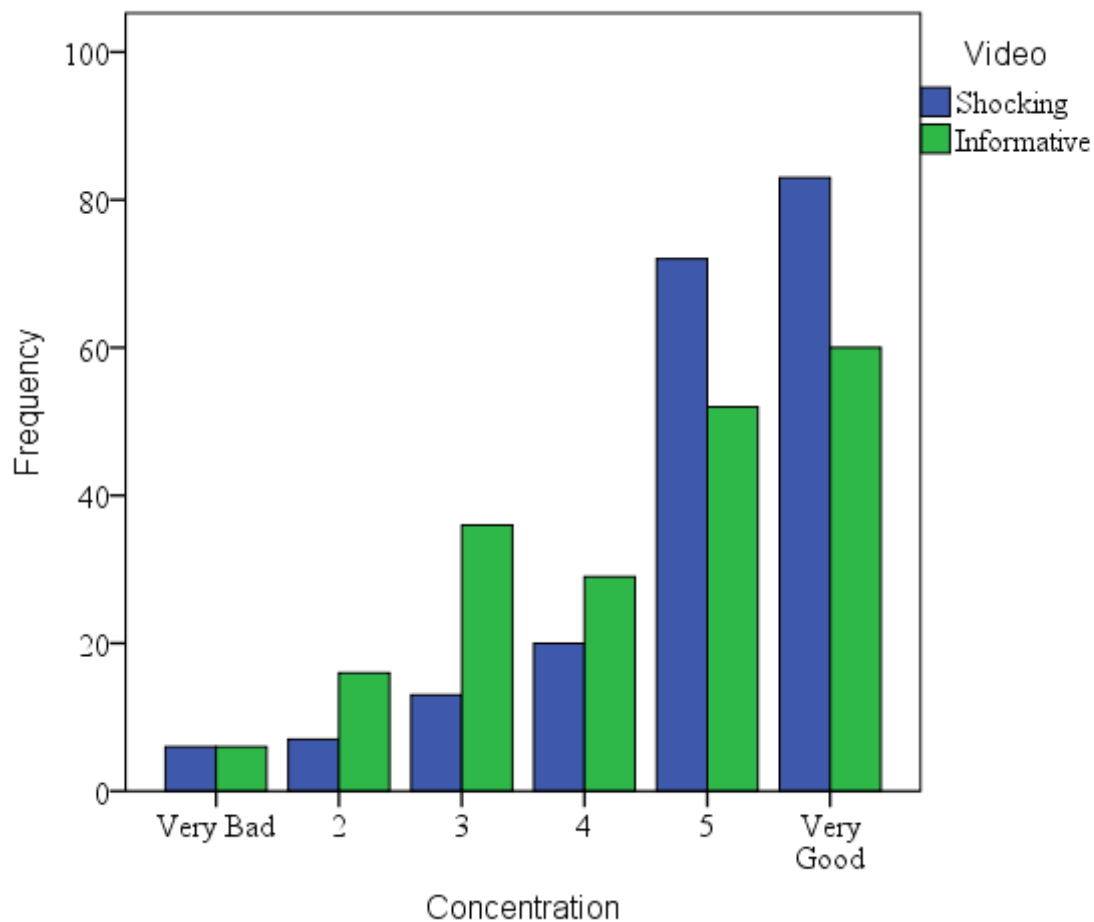


Figure 23. Bar Chart showing the affect “Concentration” for each of the videos. The y-axis (“frequency”) stands for the total amount of participants and the x-axis shows the possible answers from “1” as “Very Bad to “6” as “Very Good” on the question how the participants were able to concentrate on the content of the different videos.

As the shocking video tended to affect the participants stronger than the informative version, it can be seen, that the concentration levels were higher for most viewers.

Reality Check

The next part of the questionnaire were four explicit designed questions about the content of each of the videos. The complexity is not very high, but ensured that the participants had to watch the video or possess knowledge about each of the psychoactive substances to answer the questions correctly. Table 51 shows the total amount for this variable.

Table 51: General Statistics for "Reality Check" for each of the videos

*Used Questionnaire * Video questions correct Crosstabulation*

Count

		<i>Video questions correct</i>			
		<i>Two</i>		<i>Three</i>	
		<i>One</i>	<i>Answer</i>	<i>Answers</i>	<i>All</i>
		<i>Correct</i>	<i>correct</i>	<i>Correct</i>	<i>Correct</i>
					<i>Total</i>
<i>Used</i>	<i>Informative</i>	4	18	64	113
<i>Questionnaire</i>	<i>Shocking</i>	2	24	55	120
<i>Total</i>		6	42	119	233

Note. No trend is viewable for the total of correct and incorrect amounts on questions for each of the videos for the different video versions. 113 of the 199 participants who watched the informative video and 120 of the 201 participants who watched the shocking video answered all the four questions about the video content correctly.

The data shows that the participants answered the questions similarly for both videos in each of the versions.

Sample 2:

The second sample is presented in table 52 more in-depth. For research question one and research question two it is important, for participants to have watched the video and understood the information. Therefore, 48 participants were excluded as they only answered one or two questions about the videos correctly. The rest answered at least three of the four questions right. Furthermore, the participants had to watch at least 75% of the video to be included in the results. The minimum contains 447 seconds for the informative video and 328 seconds for the shocking video. Everyone else was excluded and this dropout number is 62. Minus the three underage participants sample 2 consists of 290 participants. Finally, 45 participants were excluded as they stated to have had a psychopathological diagnose and 2 participants were excluded as they showed to take legal psychotropic drugs without having a psychopathologic diagnose, and might have a significant impact on the outcomes.

Table 52: Descriptive Statistics for Sample 2

<i>N Participants (n and %)</i>	<i>243 (I-118=48.6%/S-125=51.4%)</i>
<i>Gender (%)</i>	<i>Female 171 (70.4%) Male 71 (29.2%) Other 1 (0.4%)</i>
<i>Age span (in years)</i>	<i>18-65</i>
<i>Mean Age (SD)</i>	<i>26.35 (6.97)</i>
<i>Nationality n (%)</i>	<i>Austrian 117 (48.1%) German 104 (42.8%) Other 22 (9.1%)</i>
<i>Income n (%)</i>	<i><400€ 57 (23.5%) 400-999€ 100 (41.2%) 1000-1499€ 31 (12.8%)</i>
<i>Living area n (%)</i>	<i>Urban area 210 (86.4%) Regional area 33 (13.6%)</i>
<i>Employment level n (%)</i>	<i>In education 152 (62.6%) Working full-time 51 (21%) Working part-time 19 (7.8%)</i>

<i>Relationship n (%)</i>	<i>Single 120 (49.4%)</i> <i>In a relationship 105 (43.2%)</i> <i>Married 13 (5.3%)</i>
<i>Psychopathology n (%)</i>	<i>No 243 (100%)</i> <i>Yes 0 (0%)</i>
<i>Psychotropic drugs n (%)</i>	<i>No 243 (100%)</i> <i>Yes 0 (0%)</i>

Statistical Analyses to Answer Research Questions/Hypotheses

Research question I

How do the different styles of the prevention videos affect the participants?

Sample 2 is used here.

Hypothesis 1

H0: There is no difference between Attitudes to Drug Use before and after the videos.

H1: There is difference between Attitudes to Drug Use before and after the videos.

For the statistical analysis Sample 2 is used. The used variables are Attitudes to Drug Use before the Video (AttitudestoDrugUseprae) and Attitudes to Drug Use after the Video (AttitudestoDrugUsepost).

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables “AttitudestoDrugUseprae” and “AttitudestoDrugUsepost”. The scores for “AttitudestoDrugUseprae” of $D(243) = 0.000$, $p = .000$, and the scores for “AttitudestoDrugUsepost” of $D(243) = 0.000$, $p = .000$, were both not normal, indicating that the data deviates from normal distribution in both groups. The results are presented in Table 53.

Table 53: Tests of Normality for the Attitude to Drug Use before and after the Videos

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AttitudestoDrugUseprae	.124	243	.000	.954	243	.000
AttitudestoDrugUsepost	.095	243	.000	.977	243	.001

a. Lilliefors Significance Correction

Note. All these variables are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

As the variables were not normally distributed, the non-parametric test Wilcoxon Signed-Ranks Test was used.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed a more positive or a more negative attitude towards drug use after watching the videos. The results indicated a significant difference, $z = -2.97$, $p = .003$. The Wilcoxon Signed-Ranks Test indicated that post-video scores ($M = 3.03$, $SD = 7.54$) were significantly lower than pre-video scores ($M = 3.08$, $SD = 7.62$). The test indicates a more negative attitude to drug use after the videos.

The research examined if the shocking and the informative videos about illegal psychoactive substances had an impact on the attitude towards drug use as stated by the participants. The results show a significant effect and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted. The videos might have an impact on the attitude towards drug use, because there is significant difference between Attitudes to Drug Use before and after the videos. This can be also stated as a time effect.

Hypothesis 2

H0: There is no difference between Beliefs about Consequences before and after the videos.

H1: There is difference between Beliefs about Consequences before and after the videos.

For the statistical analysis Sample 2 is used. The used variables are Beliefs about Consequences after Drug Use before the Video (BeliefsaboutConsequencesprae), Beliefs about Negative Consequences after Drug Use before the Video (BeliefsaboutNegativeConsequencesprae), Beliefs about Positive Consequences after Drug Use before the Video (BeliefsaboutPositiveConsequencesprae), Beliefs about Consequences after Drug Use after the Video (BeliefsaboutConsequencespost), Beliefs about Negative Consequences after Drug Use after the Video (BeliefsaboutNegativeConsequencespost), and Beliefs about Positive Consequences after Drug Use after the Video (BeliefsaboutPositiveConsequencespost).

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables were significant, indicating that the data deviates from normal distribution. The results are presented in Table 54.

Table 54: Tests of Normality for the Following Variables on the Beliefs about Consequences associated with Drug Use

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
BeliefsaboutNegativeConsequencesprae	.164	243	.000	.878	243	.000
BeliefsaboutPositiveConsequencesprae	.070	243	.006	.976	243	.000
BeliefsaboutNegativeConsequencespost	.194	243	.000	.847	243	.000
BeliefsaboutPositiveConsequencespost	.088	243	.000	.962	243	.000

<i>BeliefsaboutConsequencespre</i>	.109	243	.000	.958	243	.000
<i>BeliefsaboutConsequencespost</i>	.101	243	.000	.958	243	.000

a. Lilliefors Significance Correction

Note. All these variables are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

As the variables are not normally distributed, the non-parametric test Wilcoxon Signed-Ranks Test was used.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more positive or more negative beliefs about consequences of drug use after watching the videos. The results indicated a significant difference, $z = -2.01$, $p = .045$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “BeliefsaboutConsequencespost” ($M=3.40$, $SD=0.72$) were significantly lower than pre-video scores “BeliefsaboutConsequencesprae” ($M=3.45$, $SD=0.65$) $p < .05$.

The test indicates more negative and less positive beliefs about consequences of drug use after watching the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less negative beliefs about consequences of drug use after the videos. The results indicated a non-significant difference, $z = -1.68$, $p = .093$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “BeliefsaboutNegativeConsequencespost” ($M=4.03$, $SD=1.06$) were statistically not significantly lower than pre-video scores “BeliefsaboutNegativeConsequencesprae” ($M=4.00$, $SD=0.98$) $p > .05$.

The test indicates no difference after the videos in the beliefs about negative consequences of drug use.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less positive beliefs about consequences after drug use of the videos. The results indicated a significant difference, $z = -4.30$, $p = .000$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “BeliefsaboutPositiveConsequencespost” ($M=2.55$, $SD=0.96$) were statistically significantly lower than pre-video scores “BeliefsaboutPositiveConsequencesprae” ($M=2.72$, $SD=0.86$) $p < .05$.

The test indicates less positive beliefs about consequences of drug use after the participants watched the videos.

The research examined if the shocking and the informative videos about illegal psychoactive substances had an impact on the beliefs about positive and negative consequences associated with drug use stated by the participants. The results show a significant effect on the variables and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted. The videos tend to have an impact on the general variable about the beliefs about positive and negative consequences associated with drug use and the positive consequences associated with drug use. There is significant difference between Beliefs about Consequences before and after the videos. As in hypothesis one, this may be stated as a time-effect.

Hypothesis 3

H0: There is no difference between Perception of Risks Associated with Drug Use before and after the videos.

H1: There is difference between Perception of Risks Associated with Drug Use before and after the videos.

For the statistical analysis Sample 2 is used. The used variables are “Riskprae”, “RiskRegprae”, “RiskOccprae”, “Riskpost”, “RiskRegpost”, “RiskOccpost”, “RiskIllegalprae”, “RiskIllegalOccprae”, “RiskIllegalRegprae”, “RiskLegalprae”, “RiskLegalOccprae”, “RiskLegalRegprae”, “RiskIllegalpost”, “RiskIllegalOccpost”, „RiskIllegalRegpost”, “RiskLegalpost”, “RiskLegalOccpost”, and “RiskLegalRegpost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables were significant, indicating that the data deviates from normal distribution. The results are presented in Table 55 and Table 56.

Table 55: Tests of Normality for the following Variables on the Perception of Risks associated with Drug Use

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
<i>Riskprae</i>	.080	243	.001	.955	243	.000
<i>RiskRegprae</i>	.170	243	.000	.819	243	.000
<i>RiskOccprae</i>	.068	243	.008	.984	243	.009
<i>Riskpost</i>	.069	243	.007	.963	243	.000
<i>RiskRegpost</i>	.068	243	.008	.980	243	.002
<i>RiskOccpost</i>	.183	243	.000	.798	243	.000

a. Lilliefors Significance Correction

Note. All these variables are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

Table 56: Tests of Normality for the following Variables on the Perception of Risks associated with Drug Use

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.

<i>RiskIllegalprae</i>	.101	239	.000	.919	239	.000
<i>e</i>						
<i>RiskIllegalOcc</i>	.078	239	.001	.960	239	.000
<i>prae</i>						
<i>RiskIllegalReg</i>	.207	239	.000	.785	239	.000
<i>prae</i>						
<i>RiskLegalprae</i>	.134	239	.000	.952	239	.000
<i>RiskLegalOccp</i>	.154	239	.000	.962	239	.000
<i>rae</i>						
<i>RiskLegalRegp</i>	.413	239	.000	.601	239	.000
<i>rae</i>						
<i>RiskIllegalpost</i>	.083	239	.000	.940	239	.000
<i>RiskIllegalOcc</i>	.096	239	.000	.956	239	.000
<i>post</i>						
<i>RiskIllegalReg</i>	.206	239	.000	.768	239	.000
<i>post</i>						
<i>RiskLegalpost</i>	.111	239	.000	.939	239	.000
<i>RiskLegalOccp</i>	.145	239	.000	.965	239	.000
<i>ost</i>						
<i>RiskLegalRegp</i>	.354	239	.000	.666	239	.000
<i>ost</i>						

a. Lilliefors Significance Correction

Note. All these variables are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and regular/occasional drug use after the videos. The results indicated a non-significant difference, $z = -0.97$, $p = .923$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “Riskpost” ($M=3.29$, $SD=0.42$) were statistically not significantly lower than pre-video scores “Riskprae” ($M=3.30$, $SD=0.38$) $p > .05$.

The test shows no significant difference in the estimation of risks in association with the occasional and regular use of legal and illegal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and regular drug use after the videos. The results indicated a non-significant difference, $z = -1.02$, $p = .309$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskReg-post” ($M=3.67$, $SD=0.36$) were statistically not significantly higher or lower than pre-video scores “RiskRegprae” ($M=3.67$, $SD=0.35$) $p > .05$.

The test shows no difference in the estimation of risks in association with the regular use of legal and illegal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and occasional drug use after the videos. The results indicated a non-significant difference, $z = -0.916$, $p = .359$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskOccpost” ($M=2.91$, $SD=0.58$) were statistically not significantly higher or lower than pre-video scores “RiskOccprae” ($M=2.93$, $SD=0.52$) $p > .05$.

The test shows no difference in the estimation of risks in association with the occasional use of legal and illegal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal drug use after the videos. The results indicated a significant difference, $z = -3.31$, $p = .001$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskIllegal-post” ($M=3.25$, $SD=0.54$) were statistically significantly higher than pre-video scores “RiskIllegalprae” ($M=3.21$, $SD=0.55$) $p < .05$.

The test shows a higher estimation of risks in association with the use of illegal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal occasional drug use after the videos. The results indicated a significant difference, $z = -2.29$, $p = .022$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskIllegalOccpost” ($M=2.88$, $SD=0.71$) were statistically significantly higher than pre-video scores “RiskIllegalOccprae” ($M=2.83$, $SD=0.69$) $p < .05$.

The test shows a higher estimation of risks in association with the occasional use of illegal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal regular drug use after the videos. The results indicated a significant difference, $z = -2.43$, $p = .015$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “RiskIllegalRegpost” ($M=3.61$, $SD=0.48$) were statistically significantly higher than pre-video scores “RiskIllegalRegprae” ($M=3.58$, $SD=0.48$) $p < .05$.

The test shows a higher estimation of risks in association with the regular use of illegal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal drug use after the videos. The results indicated a significant difference, $z = -4.08$, $p = .000$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskLegalpost” ($M=3.32$, $SD=0.44$) were statistically significantly lower than pre-video scores “RiskLegalprae” ($M=3.41$, $SD=0.37$) $p < .05$.

The test shows a lower estimation of risks in association with the use of legal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal occasional drug use after the videos. The results indicated a significant difference, $z = -4.43$, $p = .000$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskLegalOccpost” ($M=2.92$, $SD=0.60$) were statistically significantly lower than pre-video scores “RiskLegalOccprae” ($M=3.05$, $SD=0.52$) $p < .05$.

The test shows a lower estimation of risks in association with the occasional use of legal drugs after the videos.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal regular drug use after the videos. The results indicated a significant difference, $z = -2.36$, $p = .018$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “RiskLegalRegpost” ($M=3.76$, $SD=0.39$) were statistically significantly lower than pre-video scores “RiskLegalRegprae” ($M=3.81$, $SD=0.36$) $p < .018$.

The test shows a lower estimation of risks in association with the regular use of legal drugs after the videos.

The research examined if the shocking and the informative videos about illegal psychoactive substances had an impact on the perception of risks associated with drug use stated by the participants. The results show a significant effect for the perception of risks associated with illegal drug use, regular illegal drug use, occasional illegal drug use, legal drug use, regular legal drug use, and occasional legal drug use. The perception of risks associated with illegal drug use, occasional illegal drug use, and regular illegal drug use significantly increased whereas the perception of risks associated with legal drug use, occasional legal drug use, and regular legal drug use significantly decreased. The null hypothesis can be rejected and the alternative hypothesis can be accepted. There is difference between Perception of Risks Associated with Drug Use before and after the videos.

Hypothesis 4

H0: The shocking video has no impact on Attitudes to Drug Use.

H1: The shocking video has impact on Attitudes to Drug Use.

First, the statistic data of sample 2 was split into two groups: the participants who watched the shocking video and the participants who watched the informative video. Only the shocking video group is analyzed in this hypothesis.

The used variables are “AttitudestoDrugUseprae” and “AttitudestoDrugUsepost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables “AttitudestoDrugUseprae” and “AttitudestoDrugUsepost”. The scores for “AttitudestoDrugUseprae” of $D(125) = 0.000$, $p > .05$, and the scores for “AttitudestoDrugUsepost” of $D(125) = 0.038$, $p > 0.5$, were both not normal, indicating that the data deviates from normally distribution in both groups. The results are presented in Table 57.

Table 57: Tests of Normality for the Attitudes of Drug Use before and after the Shocking Video

	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AttitudestoDrugUseprae	.114	125	.000	.962	125	.001
AttitudestoDrugUsepost	.082	125	.038	.984	125	.160

Note. All these variables are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

As the variables are not normally distributed, the non-parametric test Wilcoxon Signed-Ranks Test was used. The question is if the shocking video changes the attitude to drug use.

The Wilcoxon Signed-Ranks Test indicated that post-video scores ($M=2.93$, $SD=0.78$) were statistically significantly lower than pre-video scores ($M=3.05$, $SD=0.76$) $Z=4.44$, $p= .000$.

The test shows that the participants have a significantly less positive and more negative attitude towards drugs after watching the shocking video.

The research examined if the shocking video about illegal psychoactive substances had an impact on the attitude to drug use stated by the participants. The results show a significant effect and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted. The shocking video has an impact on the attitude to drug use as the attitude to drug use significantly decrease after the video.

Hypothesis 5

H0: The shocking video has no impact on Beliefs about Consequences.

H1: The shocking video has impact on Beliefs about Consequences.

For the statistical analysis Sample 2 is used. Again, only the shocking video group is analyzed in this hypothesis as the sample is split.

The used variables are “BeliefsaboutConsequencesprae”, “BeliefsaboutNegativeConsequencesprae”, “BeliefsaboutPositiveConsequencesprae”, “BeliefsaboutConsequencespost”, “BeliefsaboutNegativeConsequencespost”, and “BeliefsaboutPositiveConsequencespost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables were significant, excluding “BeliefsaboutPositiveConsequencesprae”, indicating that the data deviates from normally distribution. The results are presented in Table 58.

Table 58: Tests of Normality for Beliefs about Consequences associated with Drug Use for the Shocking Video

	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
BeliefsaboutNegativeConsequencesprae	.161	125	.000	.881	125	.000
BeliefsaboutPositiveConsequencesprae	.076	125	.070	.979	125	.054
BeliefsaboutNegativeConsequencespost	.179	125	.000	.857	125	.000
BeliefsaboutPositiveConsequencespost	.091	125	.013	.960	125	.001
BeliefsaboutConsequencesprae	.101	125	.003	.957	125	.001

<i>BeliefsaboutCo</i>	<i>.105</i>	<i>125</i>	<i>.002</i>	<i>.959</i>	<i>125</i>	<i>.001</i>
<i>nsequencespost</i>						

a. Used Questionnaire = Shocking

b. Lilliefors Significance Correction

Note. All these variables excluding “BeliefsaboutPositiveConsequencesprae” are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

As the variables are not normally distributed, the non-parametric test Wilcoxon Signed-Ranks Test was used.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more positive or more negative beliefs about consequences after drug use after the shocking video. The results indicated a significant difference, $z = -3.26$, $p = .001$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “BeliefsaboutConsequencespost” ($M=3.34$, $SD=0.77$) were statistically significantly lower than pre-video scores “BeliefsaboutConsequencesprae” ($M=3.44$, $SD=0.70$) $p < .005$.

The test indicates more negative and less positive beliefs about consequences after drug use after watching the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less negative beliefs about consequences after drug use after the videos. The results indicated a non-significant difference, $z = -0.29$, $p = .776$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “BeliefsaboutNegativeConsequencespost” ($M=3.93$, $SD=1.13$) were statistically not significantly lower than pre-video scores “BeliefsaboutNegativeConsequencesprae” ($M=3.96$, $SD=1.00$) $p > .05$. The test indicates no difference after the shocking video in the beliefs about negative consequences after drug use.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less positive beliefs about consequences after drug use after the videos. The results indicated a significant difference, $z = -4.06$, $p < .05$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “BeliefsaboutPositiveConsequencespost” ($M=2.54$, $SD=0.99$) were statistically significantly lower than pre-video scores “BeliefsaboutPositiveConsequencesprae” ($M=2.75$, $SD=0.91$) $p < .05$.

The test indicates less positive beliefs about consequences after drug use after the participants watched the shocking video.

The research examined if the shocking video about illegal psychoactive substances had an impact on the beliefs about positive and negative consequences associated with drug use stated by the participants. The results show a significant effect on the variables and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted. The shocking video has an impact on the general variable about the beliefs about positive and negative consequences associated with drug use and the positive consequences associated with drug use as they both significantly decrease after the participants watched the video.

Hypothesis 6

H0: The shocking video has no impact on Perception of Risks Associated with Drug Use.

H1: The shocking video has impact on Perception of Risks Associated with Drug Use.

For the statistical analysis Sample 2 is used and only the participants who watched the shocking video. The used variables are “Riskprae”, “RiskRegprae”, “RiskOccprae”, “Riskpost”, “RiskRegpost”, “RiskOccpost”, “RiskIllegalprae”, “RiskIllegalOccprae”, “RiskIllegalRegprae”, “RiskLegalprae”, “RiskLegalOccprae”, “RiskLegalRegprae”, “RiskIllegalpost”, “RiskIllegalOccpost”, „RiskIllegalRegpost”, “RiskLegalpost”, “RiskLegalOccpost”, and “RiskLegalRegpost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables, excluding “RiskOccprae” and “RiskRegpost” were significant, indicating that the data deviates from normally distribution. The results are presented in Table 59.

Table 59: Tests of Normality for Perception of Risks associated with Drug Use for the Shocking Video Version

	<i>Kolmogorov-Smirnov^b</i>			<i>Shapiro-Wilk</i>		
	<i>Statistic</i>	<i>df</i>	<i>Sig.</i>	<i>Statistic</i>	<i>df</i>	<i>Sig.</i>
<i>Riskprae</i>	.094	122	.010	.958	122	.001
<i>RiskRegprae</i>	.190	122	.000	.821	122	.000
<i>RiskOccprae</i>	.068	122	.200*	.978	122	.044
<i>Riskpost</i>	.088	122	.022	.966	122	.004
<i>RiskRegpost</i>	.078	122	.066	.973	122	.015
<i>RiskOccpost</i>	.187	122	.000	.831	122	.000
<i>RiskIllegalpra</i>	.104	122	.002	.900	122	.000
<i>e</i>						
<i>RiskIllegalOcc</i>	.096	122	.007	.942	122	.000
<i>prae</i>						
<i>RiskIllegalReg</i>	.230	122	.000	.776	122	.000
<i>prae</i>						
<i>RiskLegalprae</i>	.118	122	.000	.957	122	.001
<i>RiskLegalOccp</i>	.141	122	.000	.959	122	.001
<i>rae</i>						

<i>RiskLegalRegp</i>	.401	122	.000	.610	122	.000
<i>rae</i>						
<i>RiskIllegalpost</i>	.100	122	.005	.926	122	.000
<i>RiskIllegalOcc</i>	.110	122	.001	.946	122	.000
<i>post</i>						
<i>RiskIllegalReg</i>	.216	122	.000	.741	122	.000
<i>post</i>						
<i>RiskLegalpost</i>	.098	122	.006	.948	122	.000
<i>RiskLegalOccp</i>	.147	122	.000	.963	122	.002
<i>ost</i>						
<i>RiskLegalRegp</i>	.370	122	.000	.691	122	.000
<i>ost</i>						

*. This is a lower bound of the true significance.

a. Used Questionnaire = Shocking

b. Lilliefors Significance Correction

Note. All these variables excluding “RiskOccprae” and “RiskRegpost” are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and regular/occasional drug use after the shocking video. The results indicated a non-significant difference, $z = -1.35$, $p = .178$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “Riskpost” ($M=3.33$, $SD=0.41$) were statistically not significantly lower or higher than pre-video scores “Riskprae” ($M=3.30$, $SD=0.41$) $p > .05$.

The test shows no significant difference in the estimation of risks in association with the occasional and regular use of legal and illegal drugs after the participants watched the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and regular drug use after the shocking video. The results indicated a significant difference, $z = -2.01$, $p = .040$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskRegpost” ($M=3.69$, $SD=0.33$) were statistically significantly lower than pre-video scores “RiskRegprae” ($M=3.66$, $SD=0.37$) $p < .05$.

The test shows a higher estimation of risks in association with the regular use of legal and illegal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and occasional drug use after the videos. The results indicated a non-significant difference, $z = -.22$, $p = .823$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskOccpost” ($M=2.96$, $SD=0.59$) were statistically significantly higher than pre-video scores “RiskOccprae” ($M=2.95$, $SD=0.55$) $p > .05$.

The test shows no difference in the estimation of risks in association with the occasional use of legal and illegal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal drug use after the videos. The results indicated a significant difference, $z = -4.11$, $p = .000$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskIllegalpost” ($M=3.30$, $SD=0.54$) were statistically significantly higher than pre-video scores “RiskIllegalprae” ($M=3.20$, $SD=0.59$) $p < .05$.

The test shows a higher estimation of risks in association with the use of illegal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal occasional drug use after the videos. The results indicated a significant difference, $z = -3.13$, $p = .002$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskIllegalOccpost” ($M=2.95$, $SD=0.73$) were statistically significantly higher than pre-video scores “RiskIllegalOccprae” ($M=2.84$, $SD=0.75$) $p < .05$.

The test shows a higher estimation of risks in association with the occasional use of illegal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal regular drug use after the videos. The results indicated a significant difference, $z = -3.16$, $p = .015$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “RiskIllegalRegpost” ($M=3.63$, $SD=0.47$) were statistically significantly higher than pre-video scores “RiskIllegalRegprae” ($M=3.55$, $SD=0.52$) $p < .05$.

The test shows a higher estimation of risks in association with the regular use of illegal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal drug use after the videos. The results indicated a significant difference, $z = -2.90$, $p = .004$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskLegalpost” ($M=3.33$, $SD=0.43$) were statistically significantly lower than pre-video scores “RiskLegalprae” ($M=3.42$, $SD=0.37$) $p < .05$.

The test shows a lower estimation of risks in association with the use of legal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal occasional drug use after the videos. The results indicated a significant difference, $z = -3.25$, $p = .001$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskLegalOccpost” ($M=2.93$, $SD=0.58$) were statistically significantly lower than pre-video scores “RiskLegalOccprae” ($M=3.07$, $SD=0.52$) $p < .05$.

The test shows a lower estimation of risks in association with the occasional use of legal drugs after the shocking video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal regular drug use after the shocking video. The results indicated a non-significant difference, $z = -0.871$, $p = .384$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “RiskLegalRegpost” ($M=3.76$, $SD=0.37$) were statistically not significantly lower than pre-video scores “RiskLegalRegprae” ($M=3.79$, $SD=0.40$) $p > .05$.

The test shows no difference in the estimation of risks in association with the regular use of legal drugs after the shocking video.

The research examined if the shocking video about illegal psychoactive substances had an impact on the perception of risks associated with drug use stated by the participants. The results show a significant effect for the perception of risks associated with illegal drug use, regular illegal drug use, occasional illegal drug use, legal drug use, and occasional legal drug use. In addition, the effect on the general variable is significant as well. The perception of risks associated with illegal drug use, occasional illegal drug use, and regular illegal drug use significantly increased whereas the perception of risks associated with legal drug use and occasional legal drug use significantly decreased. The null hypothesis can be rejected and the alternative hypothesis can be accepted.

Hypothesis 7

H0: The informative video has no impact on Attitudes to Drug Use.

H1: The informative video has impact on Attitudes to Drug Use.

First, the statistic data of sample 2 was split into two groups: the participants who watched the shocking video and the participants who watched the informative video. Only the informative video group is analyzed in this hypothesis.

The used variables are “AttitudestoDrugUseprae” and “AttitudestoDrugUsepost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables “AttitudestoDrugUseprae” and “AttitudestoDrugUsepost”. The scores for “AttitudestoDrugUseprae” of $D(118) = 0.000$, $p > .05$, and the scores for “AttitudestoDrugUsepost” of $D(118) = 0.000$, $p > 0.5$, were both not normal, indicating that the data deviates from normally distribution in both groups. The results are presented in Table 60.

Table 60: Tests of Normality for the Attitudes to Drug Use before and after the Informative Video

	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AttitudestoDrugUseprae	.135	118	.000	.940	118	.000
AttitudestoDrugUsepost	.120	118	.000	.963	118	.003

a. Used Questionnaire = Informative

b. Lilliefors Significance Correction

Note. All these variables are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

As the variables are not normally distributed, the non-parametric test Wilcoxon Signed-Ranks Test was used. The question is if the informative video changes the attitude to drug use.

The Wilcoxon Signed-Ranks Test indicated that post-video scores ($M=3.13$, $SD=0.72$) were statistically not significantly lower or higher than pre-video scores ($M=3.11$, $SD=0.76$) $Z=0.9$, $p=.368$.

The test shows that there is no significant difference in attitude towards drugs after the informative video. The meanscore became higher, even if the difference is not significant.

The research examined if the informative video about illegal psychoactive substances had an impact on the attitude to drug use stated by the participants. The results show no significant effects and therefore the null hypothesis cannot be rejected and the alternative hypothesis cannot be accepted. The informative video has no impact on the attitude to drug use.

Hypothesis 8

H0: The informative video has no impact on Beliefs about Consequences.

H1: The informative video has impact on Beliefs about Consequences.

For the statistical analysis Sample 2 is used. Only the informative video group is analyzed in this hypothesis as the sample is split.

The used variables are “BeliefsaboutConsequencesprae”, “BeliefsaboutNegativeConsequencesprae”, “BeliefsaboutPositiveConsequencesprae”, “BeliefsaboutConsequencespost”, “BeliefsaboutNegativeConsequencespost”, and “BeliefsaboutPositiveConsequencespost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables were significant, excluding “BeliefsaboutPositiveConsequencesprae”, indicating that the data deviates from normally distribution. The results are presented in Table 61.

Table 61: Tests of Normality for Beliefs about Consequences associated with Drug Use for the Informative Questionnaire

	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
BeliefsaboutNegativeConsequencesprae	.166	118	.000	.871	118	.000
BeliefsaboutPositiveConsequencesprae	.077	118	.082	.963	118	.002
BeliefsaboutNegativeConsequencespost	.211	118	.000	.836	118	.000
BeliefsaboutPositiveConsequencespost	.093	118	.014	.957	118	.001
BeliefsaboutConsequencesprae	.124	118	.000	.955	118	.001

<i>BeliefsaboutConsequencespost</i>	<i>.092</i>	<i>118</i>	<i>.017</i>	<i>.957</i>	<i>118</i>	<i>.001</i>
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a. Used Questionnaire = Informative

b. Lilliefors Significance Correction

Note. All these variables excluding *BeliefsaboutPositiveConsequencesprae* are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more positive or more negative beliefs about consequences after drug use after the informative video. The results indicated a significant difference, $z = -0.615$, $p = .538$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “*BeliefsaboutConsequencespost*” ($M=3.46$, $SD=0.66$) were statistically not significantly lower or higher than pre-video scores “*BeliefsaboutConsequencesprae*” ($M=3.46$, $SD=0.60$) $p > .05$.

The test indicates no differences in the beliefs about consequences after drug use after watching the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less negative beliefs about consequences after drug use after the informative video. The results indicated a significant difference, $z = -2.87$, $p = .004$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “*BeliefsaboutNegativeConsequencespost*” ($M=4.14$, $SD=0.96$) were statistically significantly higher than pre-video scores “*BeliefsaboutNegativeConsequencesprae*” ($M=4.04$, $SD=0.96$) $p < .05$.

The test shows that participants have fewer beliefs about negative consequences associated with drug use after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less positive beliefs about consequences after drug use after the informative video. The results indicated a non-significant difference, $z = -1.92$, $p = .055$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “*BeliefsaboutPositiveConsequencespost*” ($M=2.56$, $SD=0.93$) were statistically not significantly lower or higher than pre-video scores “*BeliefsaboutPositiveConsequencesprae*” ($M=2.68$, $SD=0.82$) $p > .05$.

The test is extremely close not significant and shows no differences in beliefs about consequences after drug use after the informative video.

The research examined if the informative video about illegal psychoactive substances had an impact on the beliefs about positive and negative consequences associated with drug use stated by the participants. The results show a significant effect on only one variable and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted. The informative video has an impact on the negative consequences associated with drug use as this variable significantly increases after the participants watched the video.

Hypothesis 9

H0: The informative video has no impact on Perception of Risks Associated with Drug Use.

H1: The informative video has impact on Perception of Risks Associated with Drug Use.

For the statistical analysis Sample 2 is used and only the participants who watched the informative video. The used variables are “Riskprae”, “RiskRegprae”, “RiskOccprae”, “Riskpost”, “RiskRegpost”, “RiskOccpost”, “RiskIllegalprae”, “RiskIllegalOccprae”, “RiskIllegalRegprae”, “RiskLegalprae”, “RiskLegalOccprae”, “RiskLegalRegprae”, “RiskIllegalpost”, “RiskIllegalOccpost”, „RiskIllegalRegpost”, “RiskLegalpost”, “RiskLegalOccpost”, and “RiskLegalRegpost”.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables, excluding “RiskOccprae”, “Riskpost”, “RiskIllegalpost”, “RiskIllegalOccpost”, and “RiskRegpost” were significant, indicating that the data deviates from normal distribution. The results are presented in Table 62.

Table 62: Tests of Normality for the following Variables on the Perception of Risks associated with Drug Use before and after the Informative Video

	<i>Kolmogorov-Smirnov^b</i>			<i>Shapiro-Wilk</i>		
	<i>Statistic</i>	<i>df</i>	<i>Sig.</i>	<i>Statistic</i>	<i>df</i>	<i>Sig.</i>
<i>Riskprae</i>	.076	117	.090	.956	117	.001
<i>RiskRegprae</i>	.164	117	.000	.823	117	.000
<i>RiskOccprae</i>	.069	117	.200*	.988	117	.399
<i>Riskpost</i>	.070	117	.200*	.945	117	.000
<i>RiskRegpost</i>	.066	117	.200*	.978	117	.054
<i>RiskOccpost</i>	.190	117	.000	.761	117	.000
<i>RiskIllegalpra</i>	.110	117	.001	.934	117	.000
<i>e</i>						
<i>RiskIllegalOcc</i>	.088	117	.026	.972	117	.016
<i>prae</i>						
<i>RiskIllegalReg</i>	.184	117	.000	.784	117	.000
<i>prae</i>						
<i>RiskLegalprae</i>	.150	117	.000	.943	117	.000
<i>RiskLegalOccp</i>	.171	117	.000	.955	117	.001
<i>rae</i>						

<i>RiskLegalRegp</i>	.426	117	.000	.595	117	.000
<i>rae</i>						
<i>RiskIllegalpost</i>	.076	117	.090	.944	117	.000
<i>RiskIllegalOcc</i>	.081	117	.059	.963	117	.003
<i>post</i>						
<i>RiskIllegalReg</i>	.196	117	.000	.781	117	.000
<i>post</i>						
<i>RiskLegalpost</i>	.124	117	.000	.924	117	.000
<i>RiskLegalOccp</i>	.142	117	.000	.964	117	.003
<i>ost</i>						
<i>RiskLegalRegp</i>	.337	117	.000	.637	117	.000
<i>ost</i>						

*. This is a lower bound of the true significance.

a. Fragebogen, der im Interview verwendet wurde = MASTER-I

b. Lilliefors Significance Correction

Note. All these variables excluding RiskOccprae, Riskpost, RiskIllegalpost and RiskIllegalOccpost are not normally distributed as the outcomes of the Kolmogorov-Smirnov Test are significant.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and regular/occasional drug use after the informative video. The results indicated a non-significant difference, $z = -1.31$, $p = .189$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “Riskpost” ($M=3.25$, $SD=0.42$) were statistically not significantly lower or higher than pre-video scores “Riskprae” ($M=3.29$, $SD=0.36$) $p > .05$.

The test shows no significant difference in the estimation of risks in association with the occasional and regular use of legal and illegal drugs after the participants watched the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and regular drug use after the shocking video. The results indicated a non-significant difference, $z = -.77$, $p = .441$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskRegpost” ($M=3.65$, $SD=0.39$) were statistically not significantly lower or higher than pre-video scores “RiskRegprae” ($M=3.69$, $SD=0.32$) $p > .05$.

The test shows no difference in the estimation of risks in association with the regular use of legal and illegal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal/illegal and occasional drug use after the videos. The results indicated a non-significant difference, $z = -1.53$, $p = .127$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskOccpost” ($M=2.85$, $SD=0.57$) were statistically not significantly higher or lower than pre-video scores “RiskOccprae” ($M=2.90$, $SD=0.49$) $p > .05$.

The test shows no difference in the estimation of risks in association with the occasional use of legal and illegal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal drug use after the videos. The results indicated a non-significant difference, $z = -.45$, $p = .651$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskIllegalpost” ($M=3.20$, $SD=0.53$) were statistically not significantly higher or lower than pre-video scores “RiskIllegalprae” ($M=3.21$, $SD=0.50$) $p > .05$.

The test shows no difference in the estimation of risks in association with the use of illegal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal occasional drug use after the videos. The results indicated a non-significant difference, $z = -.04$, $p = .970$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskIllegalOccpost” ($M=2.81$, $SD=0.69$) were statistically not significantly higher or lower than pre-video scores “RiskIllegalOccprae” ($M=2.82$, $SD=0.63$) $p > .05$.

The test shows no difference in the estimation of risks in association with the occasional use of illegal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with illegal regular drug use after the videos. The results indicated a non-significant difference, $z = -.25$, $p = .802$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “RiskIllegalRegpost” ($M=3.59$, $SD=0.48$) were statistically not significantly higher than pre-video scores “RiskIllegalRegprae” ($M=3.60$, $SD=0.44$) $p > .05$.

The test shows no difference in the estimation of risks in association with the regular use of illegal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal drug use after the videos. The results indicated a significant difference, $z = -2.84$, $p = .005$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskLegalpost” ($M=3.31$, $SD=0.46$) were statistically significantly lower than pre-video scores “RiskLegalprae” ($M=3.40$, $SD=0.37$) $p < .05$.

The test shows a lower estimation of risks in association with the use of legal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal occasional drug use after the videos. The results indicated a significant difference, $z = -3.03$, $p = .002$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the variable “RiskLegalOccpost” ($M=2.90$, $SD=0.64$) were statistically significantly lower than pre-video scores “RiskLegalOccprae” ($M=3.03$, $SD=0.52$) $p < .05$.

The test shows a lower estimation of risks in association with the occasional use of legal drugs after the informative video.

A Wilcoxon Signed-Ranks Test was conducted to evaluate whether participants showed more or less estimation about risks in association with legal regular drug use after the shocking video. The results indicated a non-significant difference, $z = -2.63$, $p = .008$.

The Wilcoxon Signed-Ranks Test indicated that post-video scores for the general variable “RiskLegalRegpost” ($M=3.75$, $SD=0.41$) were statistically significantly lower than pre-video scores “RiskLegalRegprae” ($M=3.84$, $SD=0.31$) $p < .008$.

The test shows a lower estimation of risks in association with the regular use of legal drugs after the informative video.

The research examined if the informative video about illegal psychoactive substances had an impact on the perception of risks associated with drug use stated by the participants. The results show a significant effect for the perception of risks associated with legal drug use, regular legal drug use, and occasional legal drug use. The perception of risks associated with legal drug use, regular legal drug use, and occasional legal drug use significantly decreased. The null hypothesis can be rejected and the alternative hypothesis can be accepted.

Hypothesis 10

H0: The informative video and the shocking video do not differ in their effects on Attitudes to Drug Use.

H1: The informative video and the shocking video do differ in their effects on Attitudes to Drug Use.

Sample 2 is used in this hypothesis. First, new variables were calculated.

“DifferenceAttitude” was calculated through the difference between “AttitudestoDrugUseprae” and “AttitudestoDrugUsepost”. Afterwards, the new variable was analyzed.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for the variable were significant $D(243) = 0.000$, $p > 0.5$, indicating that the data deviates from normally distribution. The results are presented in Table 63.

Table 63: Tests of Normality for the Difference in the Attitude to Drug Use

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DifferenceAttitude	.103	243	.000	.920	243	.000

a. Lilliefors Significance Correction

Note. The Test shows that the data is not normally distributed as the outcome is significant.

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if the informative and the shocking video differ in their effects on the attitude to drug use.

A Mann-Whitney test indicated that the difference in the attitude to drug use was greater for participants who watched the shocking video ($Mdn = 0.17$) than for participants who watched the informative video ($Mdn = -0.04$), $U = 5046.50$, $p = .000$.

The test shows, that the shocking video had a different effect on the attitude to drug use than the informative video.

The research examined if the informative and the shocking video about illegal psychoactive substances had significantly different effects on the attitude to drug use stated by the participants.

The results show a significant difference and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted.

To test the difference between the gender the data file was split by gender. Do the informative and the shocking video differ in their effects on the attitude to drug use for male and female participants? As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used.

A Mann-Whitney test indicated that the difference in the attitude to drug use was greater for female participants who watched the shocking video ($M = 0.11$) than for female participants who watched the informative video ($M = -0.03$) $U = 3859.00$, $p = .000$. On the other hand the Mann-Whitney test was not significant for male participants $U = 649.00$, $p = .149$.

The test shows, that the shocking video had a different effect on the attitude to drug use than the informative video for female participants, but not for male participants.

Hypothesis 11

H0: The informative video and the shocking video do not differ in their effects on Beliefs about Consequences.

H1: The informative video and the shocking video do differ in their effects on Beliefs about Consequences.

Sample 2 is used here. First, new variables were calculated.

“DifferenceConsequences” was calculated through the difference between “BeliefsaboutConsequencesprae” and “BeliefsaboutConsequencespost”. “DifferenceNegativeConsequences” was calculated through the difference between “BeliefsaboutNegativeConsequencesprae” and “BeliefsaboutNegativeConsequencespost” and “DifferencePositiveConsequences” was calculated through the difference between “BeliefsaboutPositiveConsequencesprae” and “BeliefsaboutPositiveConsequencespost”. Afterwards, the new variables was analyzed.

A Kolmogorov-Smirnov test was used to test for normality on the dependent variables. The scores for all the variables were significant $D(243) = 0.000, p > 0.5$, indicating that the data deviates from normally distribution. The results are presented in Table 64.

Table 64: Tests of Normality for the Difference-Variables

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DifferenceConsequences	.138	243	.000	.912	243	.000
DifferenceNegativeConsequences	.226	243	.000	.718	243	.000
DifferencePositiveConsequences	.175	243	.000	.867	243	.000

a. Lilliefors Significance Correction

Note. The data of the variables for the differences after the videos are not normally distributed as shown by the Kolmogorov-Smirnov Test.

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if the informative and the shocking video differ in their effects on the beliefs about positive and negative consequences after drug use.

A Mann-Whitney test indicated that the difference in the beliefs about consequences after drug use was greater for participants who watched the shocking video ($Mdn = 0.07$) than for participants who watched the informative video ($Mdn = .00$), $U = 5868.00$, $p = .006$.

The test shows, that the shocking video had a different effect on the beliefs about consequences after drug use than the informative video.

The next question is if the informative and the shocking video differ in their effects on the beliefs about negative consequences after drug use.

A Mann-Whitney test indicated that the difference in the beliefs about negative consequences after drug use was different for participants who watched the shocking video ($Mdn = .00$) than for participants who watched the informative video ($Mdn = .00$), $U = 6237.50$, $p = .033$.

The test shows, that the shocking video had a different effect on the beliefs about negative consequences after drug use as the participants had more negative beliefs about consequences compared to the participants who watched the informative video which provided less negative beliefs about consequences associated with drug use..

Do the informative and the shocking video differ in their effects on the beliefs about positive consequences after drug use is the last question of this hypothesis.

A Mann-Whitney test indicated that the difference in the beliefs about positive consequences after drug use was not different for participants who watched the shocking video ($Mdn = .17$) than for participants who watched the informative video ($Mdn = .06$), $U = 6601.00$, $p = .153$.

The test shows, that the shocking video had no significant different effects on the beliefs about positive consequences after drug use compared to the participants who watched the informative video.

The research examined if the informative and the shocking video about illegal psychoactive substances had significantly different effects on the beliefs about consequences associated with drug use stated by the participants. The results show a significant difference in the general variable and the negative consequences associated with drug use, and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted.

To test the difference between the gender the data file was split by gender. Do the informative and the shocking video differ in their effects on the beliefs about positive consequences after drug use for male and female participants? As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used.

A Mann-Whitney test indicated that the difference in the beliefs about consequences after drug use was greater for female participants who watched the shocking video ($M = 0.10$) than for female participants who watched the informative video ($M = -0.01$) $U = 4289.00$, $p = .010$. On the other hand the Mann-Whitney test was not significant for male participants $U = 965.50$, $p = .319$. The test shows, that the shocking video had a different effect on the beliefs about consequences after drug use than the informative video for female participants, but not for male participants.

Hypothesis 12

H0: The informative video and the shocking video do not differ in their effects on Perception of Risks Associated with Drug Use.

H1: The informative video and the shocking video do differ in their effects on Perception of Risks Associated with Drug Use.

Sample 2 is used here. First, new variables were calculated.

“DifferenceRisk” was calculated through the difference between “Riskprae” and “Riskpost”.

“DifferenceIllegalRisk” was calculated through the difference between “RiskIllegalprae” and

“RiskIllegalpost” and “DifferenceLegalRisk” was calculated through the difference between “RiskLegalprae” and “RiskLegalpost”. Afterwards, the new variables was analyzed.

A Kolmogorov-Smirnov Test was used to test for normality on the dependent variables. The scores for all the variables were significant $D(241) = 0.000$, $p > 0.5$, indicating that the data deviates from normally distribution. The results are presented in Table 65.

Table 65: Tests of Normality for the Difference-Variables

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DifferenceRisk	.120	241	.000	.936	241	.000
DifferenceLega lRisk	.139	241	.000	.974	241	.000
DifferenceIlleg alRisk	.162	241	.000	.845	241	.000

a. Lilliefors Significance Correction

Note. The data of the variables for the differences after the videos are not normally distributed as shown by the Kolmogorov-Smirnov Test.

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if the informative and the shocking video differ in their effects on the perception of risks associated with drug use.

A Mann-Whitney test indicated that the difference in the perception of risks associated with drug use was not different for participants who watched the shocking video ($Mdn = 0.00$) than for participants who watched the informative video ($Mdn = 0.00$), $U = 6478.00$, $p = .101$.

The test shows, that the shocking video had no different effect on the perception of risks associated with drug use than the informative video.

The next question is if the informative and the shocking video differ in their effects on the perception of risks associated with illegal drug use.

A Mann-Whitney test indicated that the effect in the perception of risks associated with illegal drug use was not different for participants who watched the shocking video ($Mdn = 0.05$) than for participants who watched the informative video ($Mdn = 0.00$), $U = 7149.50$, $p = .678$.

The test shows, that the shocking video had no different effect on the perception of risks associated with illegal drug use compared the informative video

Do the informative and the shocking video differ in their effects on the perception of risks associated with legal drug use is the last question of this hypothesis.

A Mann-Whitney test indicated that the effect in the perception of risks associated with legal drug use was significantly different for participants who watched the shocking video ($Mdn = 0.07$) than for participants who watched the informative video ($Mdn = .000$), $U = 5778.50$, $p = .006$.

The test shows, that the shocking video had a significant different effect on the perception of risks associated with legal drug use compared to the informative video.

The research examined if the informative and the shocking video about illegal psychoactive substances had significantly different effects on the perception of risks associated with drug use stated by the participants. The results show a significant difference in the perception of risks associated only with legal drug use and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted.

To test the difference between the gender the data file was split by gender. Do the informative and the shocking video differ in their effects on the perception of risks associated with legal and illegal drug use for male and female participants? As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used.

A Mann-Whitney test indicated that the difference in the perception of risks associated with legal and illegal drug use was different for female participants who watched the informative video ($M = 0.03$) than for female participants who watched the shocking video ($M = -0.03$) $U = 4293.00$, p

= .014. On the other hand the Mann-Whitney test was not significant for male participants $U = 776.00$, $p = .825$.

The test shows, that the shocking video had a different effect on the perception of risks associated with illegal and legal drug use than the informative video for female participants, but not for male participants.

Do the informative and the shocking video differ in their effects on the perception of risks associated with only illegal drug use for male and female participants? As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used.

A Mann-Whitney test indicated that the difference in the perception of risks associated with legal and illegal drug use was weaker for female participants who watched the informative video ($M = 0.00$) than for female participants who watched the shocking video ($M = -0.08$) $U = 4075.50$, $p = .006$. On the other hand the Mann-Whitney test was not significant for male participants $U = 737.50$, $p = .555$.

The test shows, that the shocking video had a different effect on the perception of risks associated with only illegal drug use than the informative video for female participants, but not for male participants.

Do the informative and the shocking video differ in their effects on the perception of risks associated with only legal drug use for male and female participants? As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used.

A Mann-Whitney test indicated that the difference in the perception of risks associated with legal and illegal drug use was not greater for female participants who watched the informative video ($M = 0.08$) than for female participants who watched the shocking video ($M = 0.05$) $U = 5207.50$, $p = .746$. The Mann-Whitney test was not significant for male participants $U = 710.50$, $p = .392$ as well.

The test shows, that the shocking video had not a different effect on the perception of risks associated with only illegal drug use than the informative video nor for female nor for male participants.

Hypothesis 13

H0: The informative video and the shocking video do not differ in their effects on the affects.

H1: The informative video and the shocking video do differ in their effects on the affects.

“Affect-Shocking”:

A chi-square test was performed and a relationship was found between the watched video and the shocking affect, $\chi^2 (5, N = 243) = 123.68, p = .00$. The outcome is presented in table 66. The trend is that the shocking video was significantly valued as more shocking than the informative video.

Table 66: Chi-Square Tests for the Affect “Shocking”

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	123.679 ^a	5	.000
Likelihood	Ratio	143.033	5	.000
Linear-by-Linear	Association	116.282	1	.000
N of Valid Cases 243				

a. 0 cells (0.0%) have expected count less than

5. The minimum expected count is 11.17.

Note. The test shows a significant difference in the shocking affect between the videos.

“Affect-Informative”:

A chi-square test was performed and no significant relationship was found between the watched video and the informative affect, $\chi^2 (5, N = 243) = 9.42, p = .093$. The outcome is presented in table 67. The trend is that the informative video was valued as more informative than the informative video even if the test was not significant.

Table 67: Chi-Square Tests for the Affect “Informative”

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	9.422 ^a	5	.093
Likelihood		9.702	5	.084
Ratio				
Linear-by-Linear		9.068	1	.003
Association				
N of Valid Cases				
243				

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is 3.88.

Note. The test shows no significant difference which video was rated as more informative by the participants..

“Affect-Interesting”:

A chi-square test was performed and no significant relationship was found between the watched video and the interesting affect, $\chi^2(5, N = 243) = 4.55, p = .474$. The outcome is presented in table 68. There was no viewable trend between the different videos on the value if the video was interesting.

Table 68: Chi-Square Tests for Interesting

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	4.547 ^a	5	.474
Likelihood		5.710	5	.335
Ratio				
Linear-by-Linear		.604	1	.437
Association				
N of Valid Cases				
243				

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 1.46.

Note. The test shows no significant difference which video was rated as more interesting by the participants..

“Affect-Worth-Seeing”:

A chi-square test was performed and no significant relationship was found between the watched video and the affect of worth-seeing, $\chi^2 (5, N = 243) = 5.67, p = .344$. The outcome is presented in table 69. There was no viewable trend between the different videos on the value if the video was worth seeing.

Table 69: Chi-Square Tests for the Affect “Worth-Seeing”

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	5.628 ^a	5	.344
Likelihood	Ratio	5.798	5	.326
Linear-by-Linear	Association	.164	1	.686
N of Valid Cases				
243				

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 4.37.

Note. The test shows no significant difference if they were worth seeing rated by the participants.

“Affect-Suitable for Juveniles”:

A chi-square test was performed and no significant relationship was found between the watched video and the affect on the suitable for juveniles, $\chi^2 (5, N = 243) = 5.62, p = .345$. The outcome is presented in table 70. There was no viewable trend between the different videos on the value if the video was suitable for juveniles.

Table 70: Chi-Square Tests for the Affect “Suitable for Juveniles”

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	5.615 ^a	5	.345
Likelihood		5.711	5	.335
Ratio				
Linear-by-Linear		4.771	1	.029
Association				
N of Valid Cases				
243				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.80.

Note. The test shows no significant difference between the videos how suitable they were rated for juveniles by the participants.

“Affect-Emotional”:

A chi-square test was performed and a relationship was found between the watched video and the emotional affect, $\chi^2 (5, N = 243) = 88.6, p = .00$. The outcome is presented in table 71. The trend is that the shocking video was significantly valued as more emotional than the informative video. The informative video was shown to be not emotional.

Table 71: Chi-Square Tests for the Affect “Emotional”

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	88.653 ^a	5	.000
Likelihood		99.586	5	.000
Ratio				
Linear-by-Linear		80.958	1	.000
Association				
N of Valid Cases				
243				

a. 0 cells (0.0%) have expected count less than

5. The minimum expected count is 9.23.

Note. The test shows a significant difference between the videos on the emotional affect after the video.

“Affect-Boring”:

A chi-square test was performed and a relationship was found between the watched video and the affect of boredom, $\chi^2 (5, N = 243) = 22.65, p = .00$. The outcome is presented in table 72. The trend is that the shocking video was significantly valued as less boring than the informative video. The informative video was shown to be more boring.

Table 72: Chi-Square Tests for the Affect “Boredom”

		Value	df	Asymp. Sig. (2-sided)
Pearson	Chi-Square	22.648 ^a	5	.000
Likelihood	Ratio	28.483	5	.000
Linear-by-Linear	Association	11.911	1	.001
N of Valid Cases 243				

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.40.

Note. The test shows a significant difference between the videos on the boredom after the video.

“Affect-How do you feel after?”:

A chi-square test was performed and a relationship was found between the watched video and the affect how the participants felt after the video, $\chi^2 (5, N = 243) = 27.37, p = .00$. The outcome is presented in table 73. The trend is that the participants felt worse after the shocking video and better after the informative video.

Table 73: Chi-Square Tests for the Affect “Feeling”

		Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square		27.370 ^a	4	.000
Likelihood Ratio		30.372	4	.000
Linear-by-Linear Association		22.863	1	.000
N of Valid Cases 243				

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.91.

Note. The test shows a significant difference between the videos on the feeling after the video.

“Affect-Concentration”:

A chi-square test was performed and a relationship was found between the watched video and the affect of concentration, $\chi^2(5, N = 243) = 17.80, p = .003$. The outcome is presented in table 74. The trend is that the participants stated to keep their concentration better up on the shocking video than on the informative video.

Table 74: Chi-Square Tests for the Concentration during the Video

		Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square		17.801 ^a	5	.003
Likelihood Ratio		18.733	5	.002
Linear-by-Linear Association		12.191	1	.000
N of Valid Cases 243				

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 1.94.

Note. The test shows a significant difference of the videos on the concentration of the participants during the watching.

The research examined if the informative and the shocking video about illegal psychoactive substances had significantly different effects on the direct affects after the videos stated by the participants. The results show a significant difference for the affects “Shocking”, “Emotional”, “Boring”, “Feeling”, and “Concentration” and therefore the null hypothesis can be rejected and the alternative hypothesis can be accepted. The shocking video was rated significantly as more shocking, more emotional, and the participants stated, that they were able to concentrate better on the content of the shocking video. On the other hand, the informative video tends to be significantly more boring and the participants stated that they felt better after the informative video than after the shocking video.

Research Question II

Does the knowledge about psychoactive substances and their effects effect the impacts of the different prevention videos?

Hypothesis 14

H0: Knowledge about Drug Use has no effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

H0: Knowledge about Drug Use has an effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

We analyzed if there is a relationship between the knowledge about psychoactive substances and the effects of the videos. The used variables are “Knowledge”, “DifferenceAttitude”, “DifferenceConsequences”, “DifferenceRisk”, “DifferenceLegalRisk”, “DifferenceIllegalRisk”, “DifferenceNegativeConsequences”, and “DifferencePositiveConsequences”.

Based on the results of the questionnaire, knowledge about psychoactive substances is not related to the effects of the videos. The outcomes are presented in table 75 and table 76.

Table 75: Correlations for Knowledge of Drugs and the Differences after the Videos

			<i>Knowledge</i>	<i>Difference Attitude</i>	<i>Difference Consequences</i>	<i>Difference NegativeConsequences</i>	<i>Difference PositiveConsequences</i>
<i>Knowledge</i>	<i>Pearson</i>	<i>1</i>		<i>.090</i>	<i>-.063</i>	<i>-.116</i>	<i>.062</i>
	<i>Correlation</i>						
	<i>Sig. (2-tailed)</i>			<i>.160</i>	<i>.331</i>	<i>.070</i>	<i>.338</i>
	<i>N</i>	<i>243</i>		<i>243</i>	<i>243</i>	<i>243</i>	<i>243</i>

***.* Correlation is significant at the 0.01 level (2-tailed).

Note. No correlation between the Knowledge of Drugs and the Differences in the Variables after the Videos were significant.

Table 76: Correlations for Knowledge of Drugs and the Differences after the Videos

		Knowledge	DifferenceRi sk	DifferenceLe galRisk	DifferenceIll egalRisk
Knowledge	Pearson	1	-.029	.085	-.065
	Correlation				
	Sig. (2-tailed)		.656	.185	.313
	N	243	243	243	241

****.** Correlation is significant at the 0.01 level (2-tailed).

Note. No correlation between the Knowledge of Drugs and the Differences in the Variables after the Videos were significant.

The research examined if the knowledge about psychoactive substances had an impact on the effects of the informative and the shocking video on the attitude to drug use, the beliefs about consequences associated with drug use, and the perception of risks associated with drug use. The results show no significant differences. Therefore, the alternative hypothesis cannot be accepted and the null hypothesis cannot be rejected.

This hypothesis was tested again, splitting the data file by the participants who watched the informative video and the participants who watched the shocking video. Only the group who watched the shocking video had significant outcomes. The knowledge about illegal psychoactive substances and the effect of the shocking video on the perception of negative risks associated with legal drug use were positively correlated, Pearson's $r(155) = .204$, $p < .005$. This analysis indicates that participants with more knowledge about illegal drugs tend to get affected stronger by the shocking video in perception of risks associated with legal drug use than participants with less knowledge.

Hypothesis 15

H0: Earlier consumption of psychoactive substances has no effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

H0: Earlier consumption of psychoactive substances has an effect on the impact of the different videos on Attitudes to Drug Use, Beliefs about Consequences, Perception of Risks Associated with Drug Use.

Sample 2 is used here. The variables “AgeofBeginning”, “AgeofIllegalBeginning” and “AgeofLegalbeginning” are analyzed on their correlation with the variables “DifferenceAttitude”, “DifferenceConsequences”, “DifferenceRisk”, “DifferenceLegalRisk”, “DifferenceIllegalRisk”, “DifferenceNegativeConsequences”, and “DifferencePositiveConsequences”.

First, the data was analyzed as one. Only one correlation was significant. The age of beginning with legal and illegal psychoactive substances and the effect of the videos on the perception of negative risks associated with drug use were negatively correlated, Pearson’s $r(243) = -.129, p < .005$. This data indicates that the younger the participant was to start consuming psychoactive substances the bigger the effect of the videos on his or her perception of risks associated with drug use. The older the participant was to start consuming legal and illegal psychoactive substances the smaller the effect of the videos on his or her perception of risks associated with drug use. The outcome is presented in table 77.

Table 77: Correlation between Age of Beginning and the Difference in the Risks for Drugs after the Videos

	<i>AgeofBeginn</i>	<i>DifferenceRi</i>
	<i>ing</i>	<i>sk</i>
<i>Ageofbeginning</i>	1	-.129*
<i>Pearson</i>		
<i>Correlation</i>		
<i>Sig. (2-tailed)</i>		.044
<i>N</i>	243	243

**. Correlation is significant at the 0.05 level (2-tailed).*

Note. The significantly negative correlations between the age of beginning of drugs and the differences in the risks for drugs after the videos indicate, that the earlier the participants start to consume illegal drugs the bigger the effect of the shocking video tend to be on the perception of risks associated with illegal and legal drug use.

For the next statistical analysis, the data sample was split in the shocking video group and the informative video group and the correlation was tested again. The significant outcomes are presented in table 78.

Table 78: Correlations between Age of Beginning of Drugs and the Differences in the Risks for Drugs after the Shocking Video

		<i>AgeofBeginn</i>	<i>DifferenceRi</i>	<i>DifferenceLe</i>
		<i>ing</i>	<i>sk</i>	<i>galRisk</i>
<i>AgeofBeginnin</i> <i>g</i>	<i>Pearson</i>	1	-.205*	-.236**
	<i>Correlation</i>			
	<i>Sig. (2-tailed)</i>		.022	.008
	<i>N</i>	125	125	125

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Note. The significantly negative correlations between the age of beginning of drugs and the differences in the risks for drugs after the shocking video indicate, that the earlier the participants start to consume illegal drugs the bigger the effect of the shocking video tend to be on the perception of risks associated with illegal and legal drug use.

Only the group who watched the shocking video had significant outcomes. The age of beginning with legal and illegal psychoactive substances and the effect of the shocking video on the perception of negative risks associated with drug use were negatively correlated, Pearson's $r(125) = -.205$, $p < .005$. This data indicates that the younger the participant was to start consuming psychoactive substances the bigger the effect of the shocking video on his or her perception of risks associated with drug use. The older the participant was to start consuming legal and illegal psychoactive substances the smaller is the effect of the shocking video on his or her perception of risks associated with drug use.

The other significant correlation was between the age of beginning with only legal psychoactive substances and the effect of the shocking video on the perception of negative risks associated with drug use were negatively correlated, Pearson's $r(125) = -.236$, $p < .005$. This data indicates that the younger the participant was to start consuming psychoactive substances the bigger the effect of the shocking video on his or her perception of risks associated with legal drug use and the older the participant was to start consuming legal and illegal psychoactive substances the

smaller is the effect of the shocking video on his or her perception of risks associated with legal drug use.

The research examined if the age of beginning for psychoactive substances had an impact on the effects of the informative and the shocking video on the attitude to drug use, the beliefs about consequences associated with drug use, and the perception of risks associated with drug use. The results show significant differences only for the perception of risks associated with drug use and only for the shocking video.

Research Question III

How do Sensation Seeking and Narcissism have an effect on the Drug Use?

From the third research question on, only sample 1 is used.

Hypothesis 16

H0: There is no relationship between Sensation Seeking and other variables associated with Drug Use.

H1: There is a relationship between Sensation Seeking and other variables associated with Drug Use

A Pearson product-moment correlation coefficient was computed to assess the relationship between the general variable of sensation seeking and the various variables associated with drug use. All the important significant outcomes are presented.

Sensation seeking and familiarity and awareness of drugs:

There was a positive correlation between the two variables “SensationSeeking” and “FamiliarityandAwarenessofDrugs”, $r = 0.306$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the familiarity and awareness of drugs. Increases in sensation seeking were correlated with increases in familiarity and awareness of drugs.

Sensation seeking and age of beginning of legal and illegal drugs:

There was a negative correlation between the two variables “SensationSeeking” and “AgeofBeginning”, $r = -0.135$, $n = 397$, $p = 0.07$. Overall, there was a negative correlation between sensation seeking and the age of beginning of legal and illegal drugs. Increases in sensation seeking were correlated with a younger age of beginning of legal and illegal drugs.

Sensation seeking and age of beginning of legal drugs:

There was a negative correlation between the two variables “SensationSeeking” and “AgeofBeginningLegal”, $r = -0.304$, $n = 397$, $p = 0.00$. Overall, there was a negative correlation between sensation seeking and the age of beginning of legal drugs. Increases in sensation seeking were correlated with a younger age of beginning of legal drugs.

Sensation seeking and experienced effect of drug use:

There was a positive correlation between the two variables “SensationSeeking” and “ExperiencedEffectsofDrugUse”, $r = 0.344$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the experienced effects of drug use. Increases in sensation seeking were correlated with increases in the experienced effects of drug use.

Sensation seeking and combination of marihuana with alcohol:

There was a positive correlation between the two variables “SensationSeeking” and “UseofCombinationMarihuanaAlcohol”, $r = 0.461$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the use of combination of marihuana and alcohol. Increases in sensation seeking were correlated with increases in the use of combination of marihuana/cannabis/hashish with alcohol.

Sensation seeking and combination of other illegal drugs with alcohol:

There was a positive correlation between the two variables “SensationSeeking” and “UseofCombinationMarihuanaAlcohol”, $r = 0.443$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the use of combination of illegal drugs (not marihuana) and alcohol. Increases in sensation seeking were correlated with increases in the use of combination of illegal drugs excluding marihuana with alcohol.

Sensation seeking and attitudes to drug use:

There was a positive correlation between the two variables “SensationSeeking” and “AttitudestoDrugUseprae”, $r = 0.470$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the attitudes towards drugs. Increases in sensation seeking were correlated with increases in positive attitudes towards drugs.

Sensation seeking and beliefs about consequences after drug use:

There was a positive correlation between the two variables “SensationSeeking” and “BeliefsaboutConsequencesprae”, $r = 0.332$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the beliefs about consequences after drug use. Increases in sensation seeking were correlated with increases in positive beliefs about consequences associated with drug use and with decreases in negative beliefs about consequences associated with drug use.

Sensation seeking and perception of risks associated with drug use:

There was a negative correlation between the two variables “SensationSeeking” and “Riskprae”, $r = -0.256$, $n = 399$, $p = 0.00$. Overall, there was a negative correlation between sensation seeking and the perception of risks associated with drug use. Increases in sensation seeking were correlated with decreases in expected risks associated with legal and illegal drug use.

Sensation seeking and perception of risks associated with illegal drug use:

There was a negative correlation between the two variables “SensationSeeking” and “RiskIllegalprae”, $r = -0.240$, $n = 399$, $p = 0.00$. Overall, there was a negative correlation between sensation seeking and the perception of risks associated with illegal drug use. Increases in sensation seeking were correlated with decreases in expected risks associated with illegal drug use. There was no such significant correlation between sensation seeking and expected risks associated with legal drug use.

Sensation seeking and consumption of drugs:

There was a positive correlation between the two variables “SensationSeeking” and “DUDIT”, $r = 0.393$, $n = 400$, $p = 0.00$. Overall, there was a positive correlation between sensation seeking and the data of the Drug Use Disorders Identification Test. Increases in sensation seeking were correlated with increases in the score of the DUDIT, which stands therefore for increased level of drug intake and fulfilment of selected criteria for substance abuse/harmful use and dependence according to the ICD-10 and DSM-4 diagnostic systems .

For the statistical analysis of the other sensation seeking variables has to be stated that they were significantly correlated with nearly all the other variables associated with drug use. The highest correlations provided the variables “Sensation Seeking Disinhibition” (DIS) and “Sensation Seeking Experience” (ES). ES stands for the search and the living of the nonconformist lifestyle and correlates with drug use. DIS describes the social and sexual uninhibited behavior.

The research examined if sensation seeking had a relationship with the variables associated with drug use. The results show significant positive correlated relationships with the familiarity and awareness of drug use, experienced effects after drug use, use of combination of marihuana and alcohol, and illegal drugs and alcohol, the attitude to drug use, the positive beliefs about consequences associated with drug use, and the Drug Use Disorders Identifications Test. Also, the results show significant negative correlated relationships with the age of beginning of illegal and

legal drugs and the negative beliefs about consequences associated with drug use. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Hypothesis 17

H0: There is no relationship between Narcissism and other variables associated with Drug Use.

H1: There is a relationship between Narcissism and other variables associated with Drug Use.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the general variable of narcissism and the various variables associated with drug use. All the significant outcomes are presented.

Narcissism and familiarity and awareness of drugs:

There was a positive correlation between the two variables “Narcissism” and “FamiliarityandAwarenessofDrugs”, $r = 0.128$, $n = 400$, $p = 0.01$. Overall, there was a positive correlation between narcissism and the familiarity and awareness of drugs. Increases in narcissism were correlated with increases in familiarity and awareness of drugs.

Narcissism and combination of marihuana with alcohol:

There was a positive correlation between the two variables “Narcissism” and “UseofCombinationMarihuanaAlcohol”, $r = 0.102$, $n = 400$, $p = 0.04$. Overall, there was a positive correlation between narcissism and the use of combination of marihuana and alcohol. Increases in narcissism were correlated with increases in the use of combination of marihuana/cannabis/hashish with alcohol.

Narcissism and combination of illegal drugs with alcohol:

There was a positive correlation between the two variables “Narcissism” and “UseofCombinationDrugsAlcohol”, $r = 0.107$, $n = 400$, $p = 0.03$. Overall, there was a positive correlation between narcissism and the use of combination of illegal drugs and alcohol. Increases in narcissism were correlated with increases in the use of combination of illegal drugs with alcohol.

Narcissism and perception of risks associated with illegal drug use:

There was a negative correlation between the two variables “Narcissism” and “RiskIllegalprae”, $r = 0.103$, $n = 399$, $p = 0.04$. Overall, there was a positive correlation between narcissism and the perception of risks associated with illegal drug use. Increases in sensation seeking were correlated with increases in expected risks associated with illegal drug use. There was no such significant correlation between narcissism and expected risks associated with legal drug use.

The research examined if narcissism had a relationship with the variables associated with drug use. The results show significant positive correlated relationships with the familiarity and awareness of drug use, use of combination of marijuana and alcohol, and illegal drugs and alcohol, and the perception of risks associated with illegal drug use. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Hypothesis 18

H0: There is no relationship between Narcissism and Sensation Seeking.

H1: There is a relationship between Narcissism and Sensation Seeking.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the general variable of narcissism and the general variable of sensation seeking. Based on the results of the study, sensation seeking is related to narcissism $r = .279, p < .05$. Increases in narcissism were correlated with increases in sensation seeking. The outcome is presented in table 79.

Table 79: Correlation between Sensation Seeking and Narcissism

		<i>Sensation Seeking</i>	<i>Narcissism</i>
<i>Sensation Seeking</i>	<i>Pearson</i>	1	<i>.279**</i>
	<i>Correlation</i>		
	<i>Sig. (2-tailed)</i>		<i>.000</i>
	<i>N</i>	400	400
<i>Narcissism</i>	<i>Pearson</i>	<i>.279**</i>	1
	<i>Correlation</i>		
	<i>Sig. (2-tailed)</i>	<i>.000</i>	
	<i>N</i>	400	400

***.* Correlation is significant at the 0.01 level (2-tailed).

Note. The correlation between Sensation Seeking and Narcissism is significantly positive.

Furthermore, a Pearson product-moment correlation coefficient was computed to assess the relationship between the general variable of narcissism and the sub-variables of sensation seeking “thrill and adventure seeking” (TAS), “experience seeking” (ES), “disinhibition” (DIS), and “boredom susceptibility” (BS). The outcomes are presented in table X.

The variables narcissism and thrill and adventure seeking were correlated, $r(400) = .167, p < .01$.

The variables narcissism and experience seeking were not correlated, $r(400) = .012, p > .01$.

The variables narcissism and disinhibition were correlated, $r(400) = .278, p < .01$.

The variables narcissism and boredom were correlated, $r(400) = .303, p < .01$.

Increases in narcissism were correlated with increases in thrill and adventure seeking, disinhibition, and boredom. Table 80 presents the statistical data analysis.

Table 80: Correlations between Narcissism and Sensation Seeking subvariables

		<i>NPI</i>	<i>TAS</i>	<i>ES</i>	<i>BS</i>	<i>DIS</i>
<i>NPI</i>	<i>Pearson Correlation</i>	1	.167**	.012	.303**	.278**
	<i>Sig. (2-tailed)</i>		.001	.805	.000	.000
	<i>N</i>	400	400	400	400	400
<i>TAS</i>	<i>Pearson Correlation</i>	.167**	1	.378**	.203**	.263**
	<i>Sig. (2-tailed)</i>	.001		.000	.000	.000
	<i>N</i>	400	400	400	400	400
<i>ES</i>	<i>Pearson Correlation</i>	.012	.378**	1	.214**	.415**
	<i>Sig. (2-tailed)</i>	.805	.000		.000	.000
	<i>N</i>	400	400	400	400	400
<i>BS</i>	<i>Pearson Correlation</i>	.303**	.203**	.214**	1	.378**
	<i>Sig. (2-tailed)</i>	.000	.000	.000		.000
	<i>N</i>	400	400	400	400	400
<i>DIS</i>	<i>Pearson Correlation</i>	.278**	.263**	.415**	.378**	1
	<i>Sig. (2-tailed)</i>	.000	.000	.000	.000	
	<i>N</i>	400	400	400	400	400

****.** *Correlation is significant at the 0.01 level (2-tailed).*

Note. The correlations between the NPI(Narcissistic Personality Inventory) and the Sensation Seeking sub-variables Thrill and Adventure Seeking(TAS), Boredom(BS), and Disinhibition(DIS) are significantly positive.

The research examined if sensation seeking had a relationship with the narcissism. The results show a significant positive correlation. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Research Question IV

Does gender have an effect on Drug Use, Sensation Seeking, and Narcissism?

Hypothesis 19

H0: There is no difference in Sensation Seeking, Narcissism, and other variables associated with Drug Use between gender.

H1: There is difference in Sensation Seeking, Narcissism, and other variables associated with Drug Use between gender.

Only one participant chose the option “Another” for the question of gender. This is why this participant was excluded.

Gender and narcissism:

An independent-samples t-test indicated that scores were significantly higher for men ($M = 60.63$, $SD = 11.80$) than for women in narcissism ($M = 56.76$, $SD = 11.10$), $t(397) = 3.07$, $p < .005$.

Gender and sensation seeking:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their scores and expressions in sensation seeking.

A Mann-Whitney test indicated that sensation seeking was greater for men ($Mdn = 24$) than for women ($Mdn = 2$), $U = 11335.00$, $p = .000$. The test shows, that women tend to score lower on the Sensation Seeking Scale than men.

Gender and Drug Use Disorders Identification Test:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their scores and expressions in the DUDIT.

A Mann-Whitney test indicated that the scores for DUDIT were greater for men ($Mdn = 8$) than for women ($Mdn = 3$), $U = 10158.00$, $p = .000$. The test shows, that women tend to score lower on the DUDIT than men. This means men tend to have an increased level of drug intake and fulfilment of selected criteria for substance abuse/harmful use and dependence according to the ICD-10 and DSM-4 diagnostic systems.

Gender and attitudes to drug use:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their attitudes to drug use.

A Mann-Whitney test indicated that the attitudes to drug use were greater for men ($Mdn = 3.50$) than for women ($Mdn = 2.92$), $U = 9706.00$, $p = .000$. The test shows that men tend to score higher on the attitudes to drug use and have a more positive attitude to drug use.

Gender and familiarity and awareness of drugs:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their familiarity and awareness of drug use.

A Mann-Whitney test indicated that the familiarity and awareness of drug use were greater for men ($Mdn = 23$) than for women ($Mdn = 21$), $U = 11497.00$, $p = .000$. The test shows, that men have a higher familiarity and awareness of drugs than women.

Gender and experienced effects of drug use:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their experienced effects of drug use.

A Mann-Whitney test indicated that the experienced effects of drug use were greater for men ($Mdn = 10$) than for women ($Mdn = 8$), $U = 12593.00$, $p = .000$. The test shows, that men experienced more often negative effects after drug use than women.

Gender and beliefs about consequences after drug use:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their beliefs about consequences after drug use.

A Mann-Whitney test indicated that the beliefs about consequences after drug use were greater for men ($Mdn = 3.64$) than for women ($Mdn = 3.42$), $U = 13209.00$, $p = .006$. The test shows, that men have more positive and less negative beliefs about consequences after drug use than women.

Gender and perception of risks associated with drug use:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their perception of risks associated with drug use.

A Mann-Whitney test indicated that the perception of risks associated with drug use were lower for men ($Mdn = 3.29$) than for women ($Mdn = 3.43$), $U = 11945.50$, $p = .000$. The test shows, that women have a higher expectation of negative risks of drug use than men.

Gender and perception of risks associated with illegal drug use:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their perception of risks associated with illegal drug use.

A Mann-Whitney test indicated that the perception of risks associated with illegal drug use were lower for men ($Mdn = 3.15$) than for women ($Mdn = 3.45$), $U = 11227.50$, $p = .000$. The test shows, that women have a higher expectation of negative risks of illegal drug use than men.

Gender and age of beginning for drugs:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ age of beginning for drug use.

A Mann-Whitney test indicated that the age of beginning for drug use were higher for men ($Mdn = 3.68$) than for women ($Mdn = 3.50$), $U = 13516.50$, $p = .020$. The test shows, that women start with drugs in a younger age than men.

Gender and age of beginning for illegal drugs:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in age of beginning for illegal drug use.

A Mann-Whitney test indicated that the age of beginning for illegal drug use were higher for men ($Mdn = 4.50$) than for women ($Mdn = 4.00$), $U = 10024.00$, $p = .017$. The test shows, that women tend to start earlier with illegal drugs than men.

The research examined if there was a difference in the gender in the variables associated with drug use. The results show significant differences for the familiarity and awareness of drug use, the attitude to drug use, the positive and the negative beliefs about consequences associated with drug use, the narcissism, sensation seeking, the Drug Use Disorders Identification Test, the perception of risks associated with illegal and legal drug use, and the age of beginning for drugs.

Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Hypothesis 20

H0: There is no difference in variables and answers associated with Prescription Drug Use between gender.

H1: There is difference in variables and answers associated with Prescription Drug Use between gender.

The used questions are “How old have you been when you tried tranquillizers without a prescription for the first time?” from the variable block “Age of Beginning”, familiarity and awareness of tranquillizers from the block “Familiarity and Awareness of Drugs”, “How much risk is there that someone will harm themselves if they consume tranquillizers/anxiolytic prescription drugs occasionally or regularly?”.

Gender and perception of risks associated with occasional tranquillizer/anxiolytic prescription drug use:

As the variables are not normally distributed, the non-parametric test Chi-Square Test was used. The question is if men and women differ in their perception of risks associated with the occasional use of tranquillizers or anxiolytic prescription drugs.

A Chi-Square test was performed and no relationship was found between gender and the perception of risks associated with occasional tranquillizer/anxiolytic prescription drug use, $\chi^2 (3, N = 286) = 8.15, p = .04$. The test shows, that women have a higher expectation of negative risks of the use of occasional tranquillizers or anxiolytic prescription drugs than men.

Gender and perception of risks associated with regular tranquillizer/anxiolytic prescription drug use:

As the variables are not normally distributed, the non-parametric test Chi-Square Test was used. The question is if men and women differ in their perception of risks associated with the regular use of tranquillizers or anxiolytic prescription drugs.

A Chi-Square test was performed and no relationship was found between gender and the perception of risks associated with tranquillizers or anxiolytic prescription drugs, $\chi^2 (3, N = 283) = 2.81, p = .42$. The test shows, that women have not a higher or lower expectation of negative risks of the regular use of tranquillizers or anxiolytic prescription drugs than men.

Gender and familiarity and awareness of tranquillizers:

As the variables are not normally distributed, the non-parametric test Chi-Square Test was used. The question is if men and women differ in their familiarity and awareness of tranquillizers use. A Chi-Square test was performed and no relationship was found between gender and the familiarity and awareness of tranquillizers, $\chi^2 (3, N = 399) = 6.99, p = .58$. The test shows, that men and women do not differ in their knowledge of tranquillizers.

Gender and age of beginning of tranquillizers:

As the variables are not normally distributed, the non-parametric test Chi-Square Test was used. The question is if men and women differ in their age of beginning of tranquillizers use. A Chi-Square test was performed and no significant relationship was found between gender and the age of beginning of tranquillizers, $\chi^2 (8, N = 400) = 15.34, p = .053$. The test shows, that men and women do not differ in their first tranquillizer consumption.

The research examined if there was a difference in the gender in the variables associated with prescription drug use. The results show significant differences only for the perception of risks associated with tranquillizer or other anxiolytic prescription drug use. Therefore, the alternative hypothesis cannot be fully rejected and the null hypothesis cannot be accepted.

Hypothesis 21

H0: There is no difference in variables and answers associated with Legal Drug Use between gender.

H1: There is difference in variables and answers associated with Legal Drug Use between gender.

Other hypothesis have shown differences between men and women in their answers associated with illegal drugs.

Gender and perception of risks associated with legal drug use:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in their perception of risks associated with drug use.

A Mann-Whitney test indicated that the perception of risks associated with legal drug use were not lower for men ($Mdn = 3.57$) than for women ($Mdn = 3.50$), $U = 15816.50$, $p = .846$. The test shows, that women have not a higher or lower expectation of negative risks after legal drug use than men.

Gender and age of beginning for legal drugs:

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if men and women differ in age of beginning for legal drug use.

A Mann-Whitney test indicated that the age of beginning for legal drug use were higher for men ($Mdn = 3.20$) than for women ($Mdn = 3.20$), $U = 14722.50$, $p = .241$. The test shows, that women and men do not differ in their age of beginning for legal drugs.

The research examined if there was a difference in the gender in the variables associated with legal drug use. The results show no significant differences for the perception of risks associated with legal drug use or the age of beginning for legal drugs in the gender groups. Therefore, the alternative hypothesis cannot be accepted and the null hypothesis cannot be rejected.

Hypothesis 22

H0: There is no difference in variables and answers associated with Illegal Drug Use between gender.

H1: There is difference in variables and answers associated with Illegal Drug Use between gender.

To test this hypothesis the correlation between gender and some of the variables associated with drug use are analyzed.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the variable of gender and the familiarity and awareness of drugs.

The two variables gender and the scores for DUDIT were negatively correlated, $r(399) = -.211, p < .01$. Men tend to have a higher familiarity and awareness of drugs.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the variable of gender and experienced effects of drug use.

The two variables gender and the experienced effects of drug use were negatively correlated, $r(399) = -.210, p < .01$. Men tend to have experienced negative effects of drug use more often than women

A Pearson product-moment correlation coefficient was computed to assess the relationship between the variable of gender and combination of illegal drugs with alcohol.

The two variables gender and the combination of drugs with alcohol were negatively correlated, $r(399) = -.306, p < .01$. Men tend to combine alcohol with illegal drugs more often than women

A Pearson product-moment correlation coefficient was computed to assess the relationship between the variable of gender and the attitude to drug use.

The two variables gender and the scores for the attitudes to drug use were negatively correlated, $r(399) = -.303, p < .01$. Men tend to have a more positive attitude to drug use than women.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the variable of gender and the beliefs about consequences of illegal drug use.

The two variables gender and the beliefs about consequences of drug use were negatively correlated, $r(399) = -.148, p < .05$. Men tend to have more positive and less negative beliefs about consequences of illegal drug use than women.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the variable of gender and the perception of risks associated with illegal and legal drug use.

The two variables gender and the perception of risks associated with illegal drug use were positively correlated, $r(398) = -.195, p < .01$ as gender and the perception of risks associated with legal drug use were not significantly correlated, $r(398) = .014, p = .774$. Women tend to have a higher perception of risks associated with illegal drug use but not with legal drug use.

The research examined if there was a difference in the gender in the variables associated with drug use. The results show significant differences for the familiarity and awareness of drug use, the experienced effects after drug use, the attitude to drug use, the positive and the negative beliefs about consequences associated with drug use, and the perception of risks associated with illegal drug use. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Research Question V

Are there gateway-drugs which lead to more harmful and illegal substances?

Hypothesis 23

H0: Cannabis is not a gateway drug.

H1: Cannabis is a gateway drug.

To test this hypothesis the correlation between the age of beginning of marihuana or hashish and the age of beginning for the other drugs are analyzed.

The two variables age of beginning of marihuana or hashish and general variable of the age of beginning of illegal drugs were strongly positively correlated, $r(329) = .728, p < .01$. The younger the age of beginning for marihuana or hashish the younger the participants tend to be when they first try other illegal drugs whereas the older the age of beginning for marihuana or hashish the older the participants indicate to be when they first try other illegal drugs.

The two variables age of beginning of marihuana or hashish and age of beginning of LSD or other hallucinogenes were positively correlated, $r(108) = .447, p < .01$. The younger the age of beginning for marihuana or hashish the younger the participants tend to be when they first try LSD or other hallucinogens whereas the older the age of beginning for marihuana or hashish the older the participants indicate to be when they first try LSD or other hallucinogens.

The two variables age of beginning of marihuana or hashish and age of beginning of cocaine or crack were positively correlated, $r(129) = .385, p < .01$. The younger the age of beginning for marihuana or hashish the younger the participants tend to be when they first try cocaine or crack whereas the older the age of beginning for marihuana or hashish the older the participants indicate to be when they first try cocaine or crack.

The two variables age of beginning of marihuana or hashish and age of beginning of heroin were positively correlated, $r(15) = .534, p < .05$. The younger the age of beginning for marihuana or hashish the younger the participants tend to be when they first try heroin whereas the older the age of beginning for marihuana or hashish the older the participants indicate to be when they first try heroin.

The two variables age of beginning of marihuana or hashish and age of beginning of ecstasy or MDMA were positively correlated, $r(148) = .401, p < .01$. The younger the age of beginning for marihuana or hashish the younger the participants tend to be when they first try ecstasy or MDMA whereas the older the age of beginning for marihuana or hashish the older the participants indicate to be when they first try ecstasy or MDMA.

The two variables age of beginning of marihuana or hashish and age of beginning of amphetamines were positively correlated, $r(112) = .318, p < .01$. The younger the age of beginning for marihuana or hashish the younger the participants tend to be when they first try amphetamines whereas the older the age of beginning for marihuana or hashish the older the participants indicate to be when they first try amphetamines.

The two variables age of beginning of marihuana or hashish and age of beginning of tranquillizers were not significantly correlated, $r(329) = -.078, p = .159$. The age of beginning seems to have no correlation with the prescription drug tranquillizers.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the age of beginning for marihuana or hashish and the scores for the Drug Use Disorders Identification Test DUDIT.

The two variables age of beginning of marihuana or hashish and the scores for DUDIT were negatively correlated, $r(329) = -.293, p < .01$. The younger the age of beginning for marihuana or hashish the higher the score for the DUDIT and the later the age of beginning for marihuana or hashish the lower the score on the DUIT tends to be.

The two variables age of beginning of marihuana or hashish and the experienced effects of drug use were negatively correlated, $r(329) = -.341, p < .01$. The younger the age of beginning for marihuana or hashish the more negative effects after drug use the participants tend to have experienced and the later the age of beginning for marihuana or hashish the less negative effects the participants tend to have experienced.

The two variables age of beginning of marihuana or hashish and attitude to drug use were negatively correlated, $r(329) = -.286, p < .01$. The younger the age of beginning for marihuana or hashish the higher the positive attitude to drug use participants tend to have and the later the age of beginning for marihuana or hashish the more negative the attitude to drug use.

The two variables age of beginning of marihuana or hashish and perception of risks associated with illegal drug use were positively correlated, $r(328) = .164, p < .01$. The younger the age of beginning for marihuana or hashish the lower the perception of risks associated with illegal drug use and the older the age of beginning for marihuana or hashish the higher the perception of risks associated with illegal drug use.

The research examined if there was a relationship between the age of beginning for marihuana/hashish and other illegal drugs to test if marihuana/hashish are a gateway drug. The results show significant positive correlations with the general variable of the age of beginning with illegal drugs and specifically with LSD or other hallucinogenes, cocaine or crack, heroin, ecstasy or MDMA, amphetamines, and tranquillizers. In addition, there was a significant positive correlation between the age of beginning of marihuana or hashish and the perception of risks associated with illegal drug use. On the other hand, there was a significant negative correlation between the age of beginning with marihuana or hashish and the DUDIT and the attitude to drug use. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Hypothesis 24

H0: Tobacco is not a gateway drug for cocaine.

H1: Tobacco is a gateway drug for cocaine.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the age of beginning for cigarettes and the age of beginning for cocaine or crack

The two variables age of beginning of marihuana or hashish and the age of beginning for cocaine or crack were positively correlated, $r(126) = .316, p < .01$. The younger the age of beginning for tobacco the younger the first consumption of cocaine or crack and the older the participant was to try the cigarette for the first time the older he or she tends to have been to try cocaine or crack. Table 81 shows the outcomes.

Table 81: Correlations of First Cigarette and First Use of Cocaine/Crack

		<i>First Cigarette</i>	<i>Cocaine or Crack</i>
<i>First Cigarette</i>	<i>Pearson</i>	<i>1</i>	<i>,316**</i>
	<i>Correlation</i>		
	<i>Sig. (2-tailed)</i>		<i>,000</i>
	<i>N</i>	<i>358</i>	<i>126</i>
<i>Cocaine or Crack</i>	<i>Pearson</i>	<i>,316**</i>	<i>1</i>
	<i>Correlation</i>		
	<i>Sig. (2-tailed)</i>	<i>,000</i>	
	<i>N</i>	<i>126</i>	<i>127</i>

***.* Correlation is significant at the 0.01 level (2-tailed).

Note. The significant correlation between the age of beginning for tobacco and the age of beginning for cocaine/crack.

The research examined if there was a relationship between the age of beginning for tobacco and cocaine or crack. The results show significant positive correlations between the age of the first cigarette and the age of the first consumption of cocaine or crack. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Research Question VI

Is poly-drug use more common when psychoactive substances are being consumed?

Hypothesis 25

H0: Poly-drug use is not more common when people consume psychoactive substances.

H1: Poly-drug use is more common when people consume psychoactive substances.

The analyzed variable is the use of combinations of legal and illegal drugs.

The poly-drug use of cannabis/marihuana and alcohol of participants ranged from 0 times to 20 times during their whole lifespan. ($M = 3.47$, $SD = 2.03$). “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”. The outcomes are shown on the figure 24.

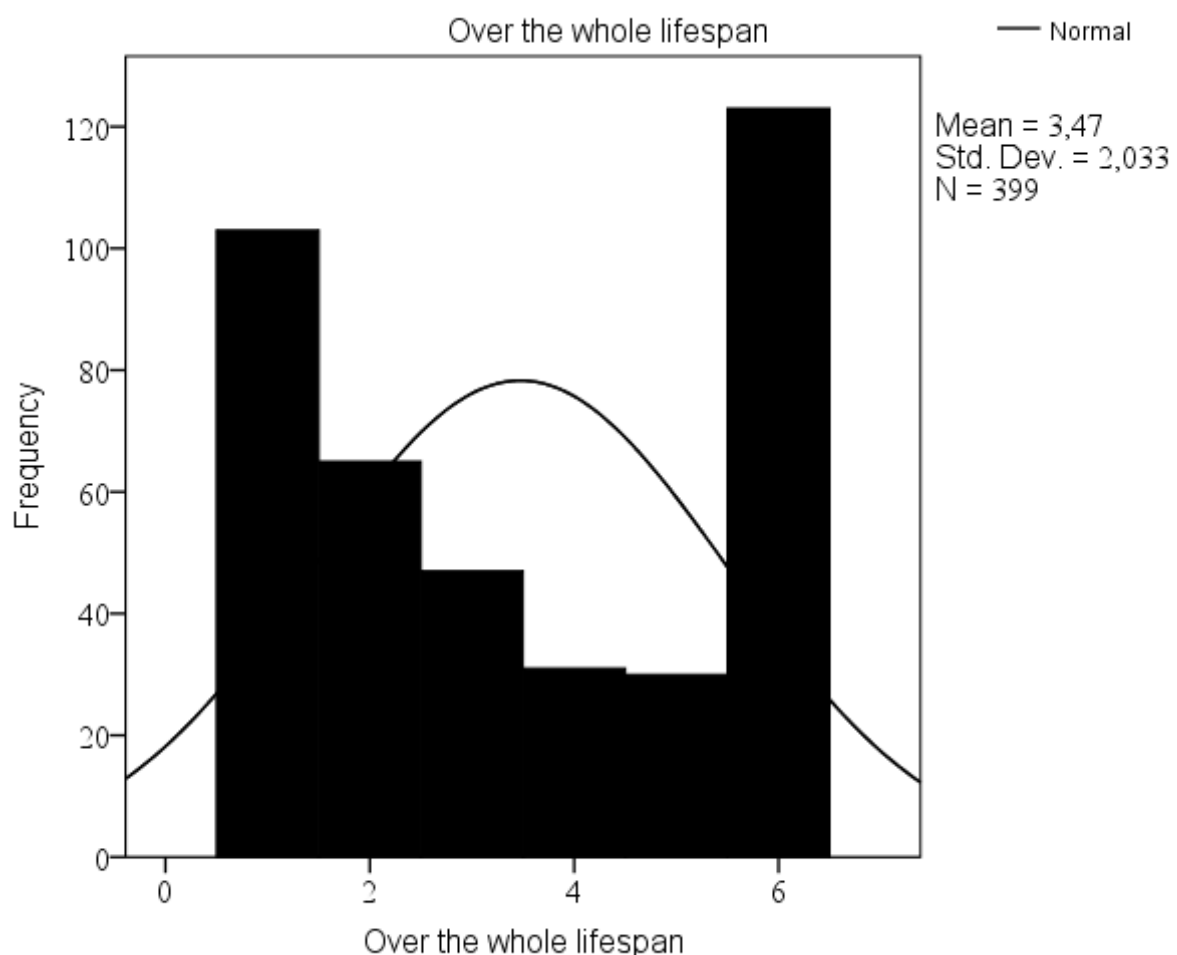


Figure 24. Total responses for the poly-drug use of marihuana/cannabis and alcohol over the whole lifespan. The y-axis shows the total amount of participants. The x-axis shows the answers. “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”.

The polydrug-use of cannabis/marihuana and alcohol of participants ranged from 0 times to 20 times for the past 12 months. ($M = 2.31$, $SD = 1.77$). “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”. The outcomes are shown on the figure 25.

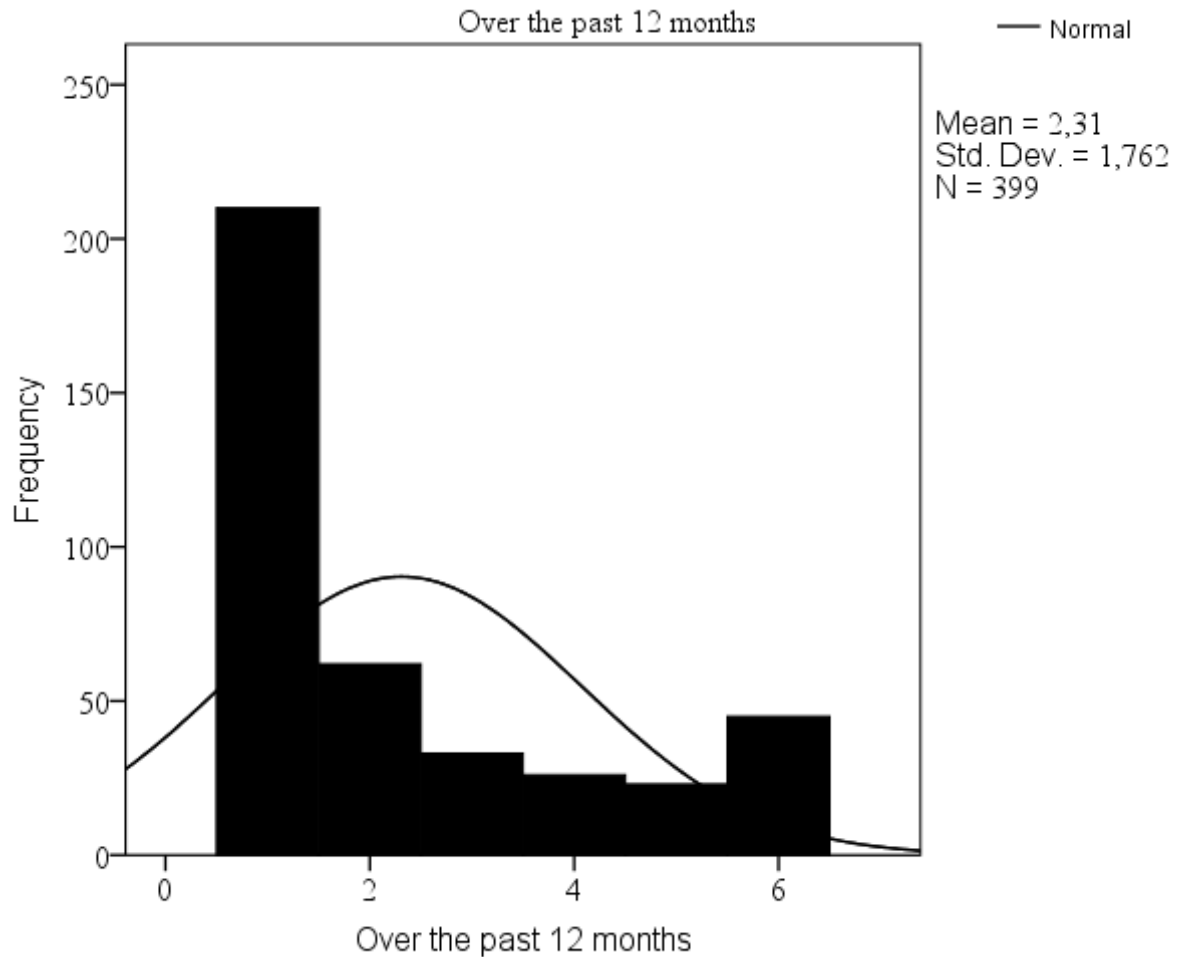


Figure 25. Total responses for the poly-drug-use of marihuana/cannabis and alcohol over the past 12 months. The y-axis shows the total amount of participants. The x-axis shows the answers. “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”.

The polydrug-use of cannabis/marihuana and alcohol of participants ranged from 0 times to 20 times for the past 30 days. ($M = 1.56$, $SD = 1.06$). “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”. The outcomes are shown on the figure 26.

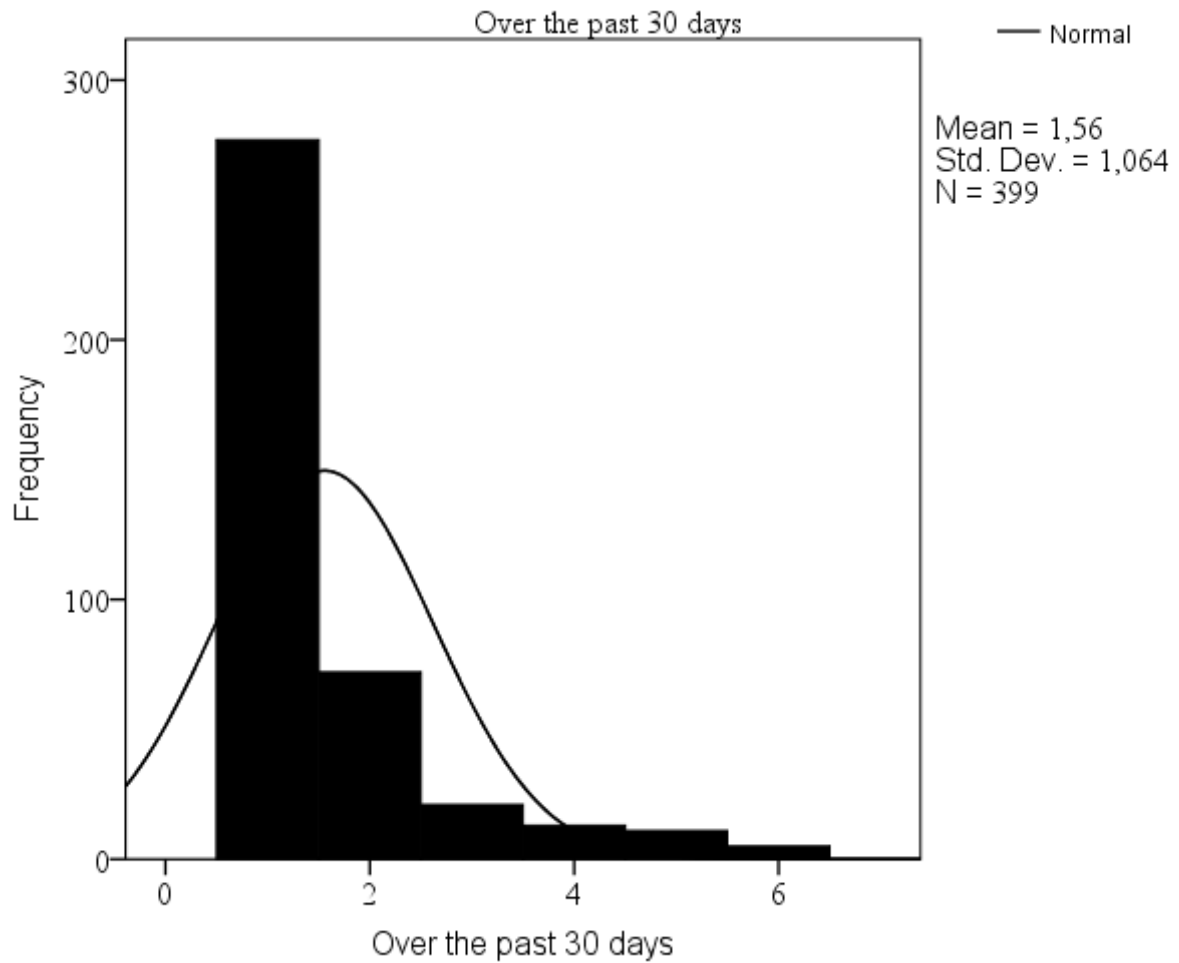


Figure 26. Total responses for the poly-drug-use of marihuana/cannabis and alcohol over the past 30 days. The y-axis shows the total amount of participants. The x-axis shows the answers. “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”.

The poly-drug-use of illegal drugs excluded marihuana or cannabis and alcohol of participants ranged from 0 times to 20 times for their lifetime. ($M = 2.42$, $SD = 1.94$). “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”. The outcomes are shown on the figure 27.

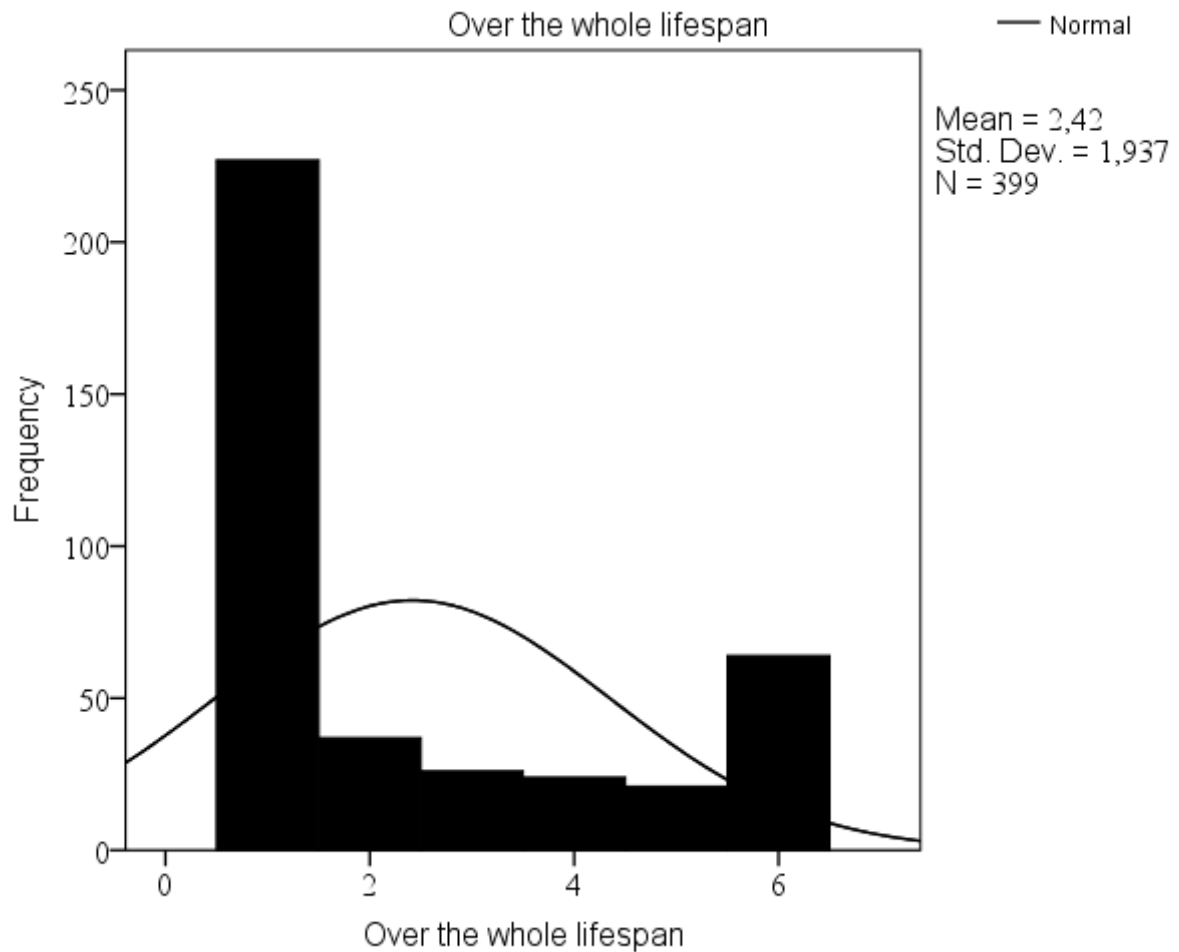


Figure 27. Total responses for the poly-drug-use excluding marihuana or cannabis with alcohol over the whole lifespan. The y-axis shows the total amount of participants. The x-axis shows the answers. “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”.

The poly-drug-use of illegal drugs excluded marihuana or cannabis and alcohol of participants ranged from 0 times to 20 times for the past 12 months. ($M = 1.75$, $SD = 1.45$). “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”. The outcomes are shown on the figure 28.

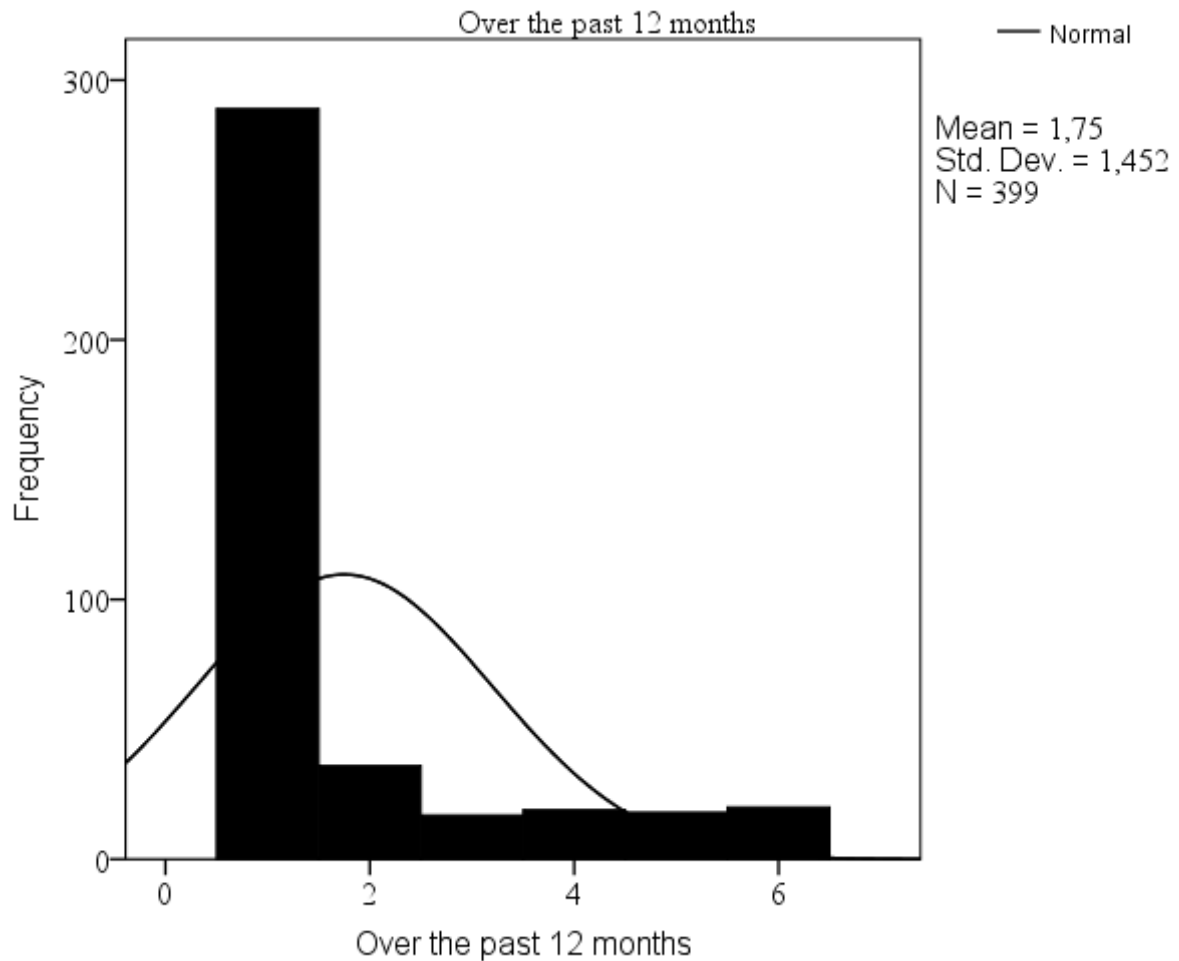


Figure 28. Total responses for the poly-drug-use excluding marihuana or cannabis with alcohol over the past 12 months. The y-axis shows the total amount of participants. The x-axis shows the answers. “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”.

The poly-drug-use of illegal drugs excluded marihuana or cannabis and alcohol of participants ranged from 0 times to 20 times for the past 30 days. ($M = 1.27$, $SD = 0.71$). “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”. The outcomes are presented on the figure 29.

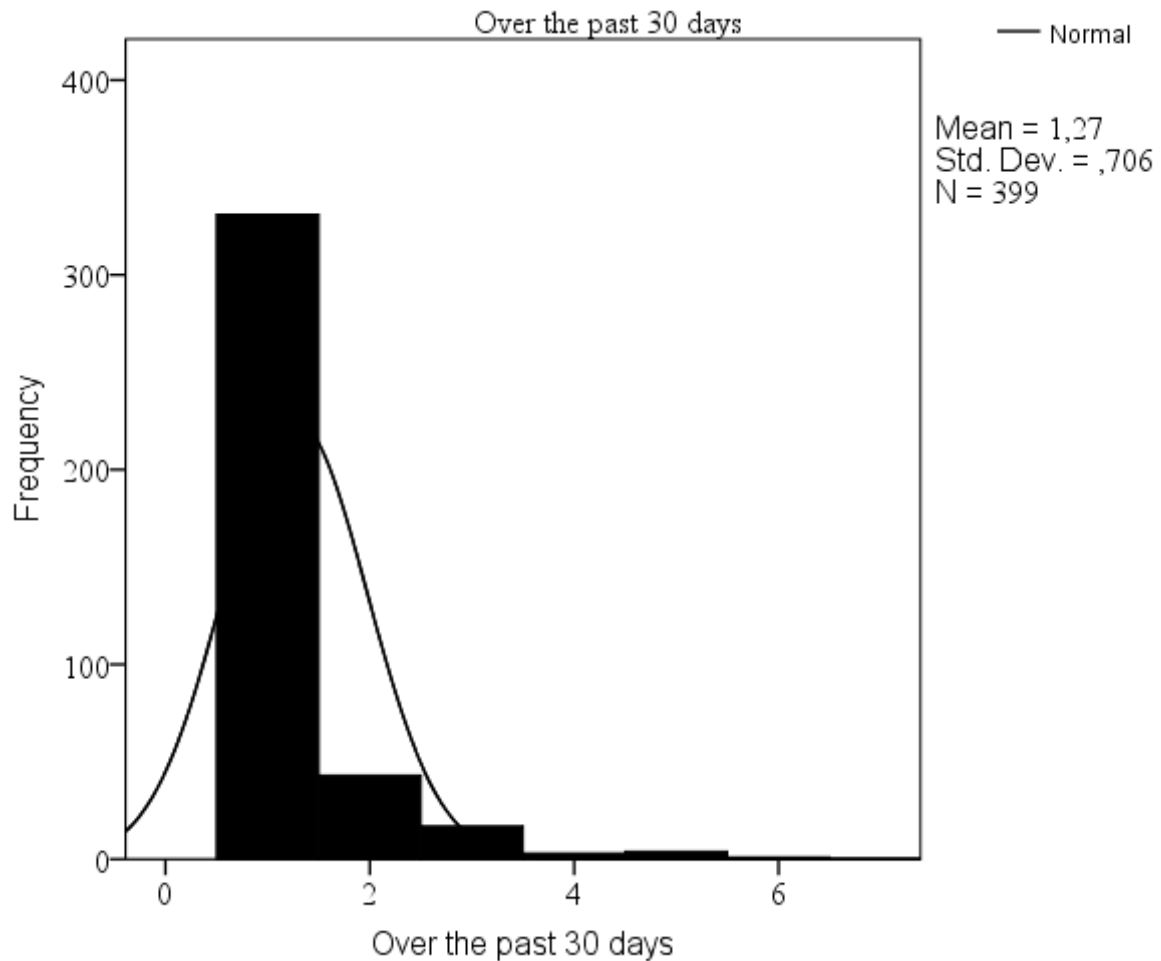


Figure 29. Total responses for the poly-drug-use excluding marihuana or cannabis with alcohol over the past 30 days. The y-axis shows the total amount of participants. The x-axis shows the answers. “1” stands for “Never” or “0 times”, “2” for “1-2 times”, “3” for “3-5 times”, “4” for “6-10 times”, “5” for “10-20 times”, and “6” for “More than 20 times”.

The research examined if poly-drug-use is normal in the lives of the participants. The descriptive statistics and the histograms present the data with a tendency for mono-drug-use. Therefore, the null hypothesis can be accepted and the alternative hypothesis can be rejected.

Research Question VII

Does Drug Use lead to psychopathological illnesses (or vice versa)?

Hypothesis 26

H0: There is no relationship between psychopathology and Drug Use.

H0: There is a relationship between psychopathology and Drug Use.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the psychopathological status and the Drug Use Disorders Identification Test DUDIT.

The two variables psychopathological status and the DUDIT score were positively correlated, $r(400) = .137, p < .01$. The participants with a psychopathological illness diagnose tend to score higher on the DUDIT and the participants without a psychopathological illness diagnose tend to score lower on the DUDIT.

As the variables are not normally distributed, the non-parametric test Mann-Whitney Test was used. The question is if participants with a psychopathological illness diagnose score differently on the DUDIT.

A Mann-Whitney test indicated that DUDIT scores were higher for participants with psychopathological diagnoses ($Mdn = 6.00$) than for participants with no psychopathological diagnose ($Mdn = 4.00$), $U = 8167.50, p = .03$.

The research examined if there was a relationship between the psychopathological status and drug use. The differences between the participants with and without a psychopathological diagnosis are significant. In addition, the correlation of the psychopathological status and the DUDIT is positively correlated. Therefore, the alternate hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Research Question VIII

What are the protective factors for Drug Use?

Hypothesis 27

H0: Participants in a relationship do not differ from the participants without a relationship in variables associated with Drug Use.

H1: Participants in a relationship do differ from the participants without a relationship in variables associated with Drug Use.

The statistical data was transformed. The status “In a relationship” and “married” were recomputed to “1” and the status “Single”, “Divorced”, “Widowed”, and “Another” were recoded to “2”.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the relationship status and the Drug Use Disorders Identification Test DUDIT.

The two variables relationship status and the DUDIT score were positively correlated, $r(400) = .119, p < .05$. The participants in a relationship tend to score lower on the DUDIT and the participants without a current relationship tend to score higher on the DUDIT.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the relationship status and the attitudes towards drug use.

The two variables relationship status and the attitude towards drug use were positively correlated, $r(400) = .103, p < .05$. The participants in a relationship tend to have a more negative attitude to drug use and the participants without a current relationship tend to have a more positive attitude towards drug use.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the relationship status and beliefs about positive consequences after illegal drug use.

The two variables relationship status and the beliefs about positive consequences after drug use were positively correlated, $r(400) = .191, p < .01$. The participants in a relationship tend have less beliefs about positive consequences after drug use than participants without a current relationship who tend to have higher beliefs about positive consequences associated with drug use.

The research examined if there was a relationship between the relationship status of the participants and other variables associated with drug use. The results show significant negative correlations with the DUDIT, the attitude to drug use, and the beliefs about positive consequences associated with drug use for participants in a relationship. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Hypothesis 28

H0: Knowledge is not a protective partner to problems associated with Drug Use.

H1: Knowledge is a protective partner to problems associated with Drug Use.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the familiarity and awareness of drugs and the Drug Use Disorders Identification Test DUDIT.

The two variables familiarity and awareness of drugs and the DUDIT score were positively correlated, $r(400) = .285, p < .01$. Increased familiarity and awareness of drugs indicates an increased score in the DUDIT and decreased familiarity and awareness of drugs indicates a decreased score in the DUDIT.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the familiarity and awareness of drugs and the experienced effects of drug use.

The two variables familiarity and awareness of drugs and the experienced effects of drug use were positively correlated, $r(400) = .395, p < .01$. An increased familiarity and awareness of drugs indicates, that the participants experience more negative experiences due to drug use. Whereas a decreased familiarity and awareness of drugs indicates, that the participants experience fewer negative experiences because of drug use.

The research examined if there was a relationship between the knowledge about drugs stated by the participants and other variables associated with drug use. The results show significant positive correlations with the DUDIT and the negative experienced effects after drug use. Therefore, the alternative hypothesis cannot be rejected and the null hypothesis cannot be accepted.

Hypothesis 29

H0: Work is not a protective factor to problems associated with Drug Use.

H1: Work is a protective factor to problems associated with Drug Use.

The statistical data of the employment status was transformed. The status “Working fulltime”, “Working part-time”, and “Working partially” were recomputed to a “1” and the status “In Education”, “Unemployed” were recoded to a “2” whereas the status “Retired”, “In parental leave”, and “Another” were not taking into the statistical analysis.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the employment status and other variables associated with drug use. None of the correlations were significant. Different data transformations were computed and other statistical methods used, but work tends to have no significant effects of variables associated with drug use.

The research examined if there was a relationship between the employment status and other variables associated with drug use. The results show no significant correlations with other variables associated with drug use. Therefore, the alternative hypothesis cannot be accepted and the null hypothesis cannot be rejected.

Discussion

Before drawing conclusions based on this academic research, some of its weaknesses need to be acknowledged. Only the attitudes, perceptions, knowledge and cognitive factors are examined in this study. It cannot be stated if the videos or this questionnaire really had an impact on the legal and illegal drug abuse of the participants. The literature gives too little scientific evidence to confidently draw conclusions concerning the effectiveness of drug education. As stated by Haes (1987), gains in knowledge about drugs, or even the change in attitude towards drug use may be negative, since there is some evidence that these may be counterproductive. Some educational drug programs were found to reduce drug usage while others were found to increase it. In addition, this study cannot determine if it really increased the participants knowledge about psychoactive substances. Besides, not much is known about the long-term behavioral and cognitive consequences of the videos and the questionnaire.

Another limitation is that recruitment strategy is an example of non-purposive sampling. It is acknowledged that this has significant limitations, most notably with respect to response bias. It is more likely that individuals will respond to surveys if they see topics or items that are of interest to them, and thus by definition will differ from those who do not participate. Furthermore, there is a confounding of age and cohort effects, which also complicates the generalization. The participants were asked to help on an academic research on the topic of prevention and illegal psychoactive substances. Individuals who did not want to help in an academic research or were not interested in the topic, however, were in all likelihood disinclined to participate. In addition, people without an internet connection or without the understanding of the German language were not able to participate in this study. In general, the findings are limited to a convenience sample of participants who use social media platforms (where the participants were gained) like “Facebook”, “Xing”, and “SosciSurvey”. In addition, because the likelihood of clicking on a “Facebook”- or “Xing”-post may be positively correlated with the amount of time spent on social media, this sample may disproportionately include individuals who spend significantly more time on social media. It is also possible that participants gave answer that would satisfy the author of the study. Blackouts after drug use can skew the answers. Supplementary, the full questionnaire and the video took around 30 minutes of time. It can be assumed that predominantly, individuals who were interested in this topic participated in the study. In conclusion, this might be not a nationally representative sample. The information and conclusions made in this work cannot be generalized. Although the findings cannot be said to be representative of the wider Austrian or

German population, they do provide a useful snapshot of what illegal and legal drugs are being used and how they are impacting upon people's lives and cognitive factors. The findings can inform policy, health service development and most importantly provide people who consume illegal and legal drugs with practical advice on how to stay healthy and minimize the harms associated with the use of psychoactive substances.

Another important limitation is the variable "Age of Beginning". This variable only states when the participant tried a psychoactive substance for the first time but is not able to make a statement if this participant continued to consume this substance or if this was a singularity. This factor is a major limitation for the statistical analysis with this variable and can only provide a tendency, but never a causality. The name "Age of Beginning" is therefore wrong and a more optimal name is "First Consumption".

This chapter critically examines the findings made by this research in the light of the previous state of the subject as outlined in the background, and judgments are made as to what has been learned. The statistical analysis showed significant effects of the shocking and the informative video about the dangers and effects of illegal psychoactive substances on the attitude towards drug use, beliefs about positive and negative consequences linked with drug use, and the perception of legal and illegal risks associated with drug use stated by the participants. As expected, the shocking video had a more significant effect and decreased the attitude towards illegal drug use and the beliefs about positive consequences associated with illegal drug use. On the other hand and paradoxically, the informative video decreased the beliefs about negative consequences linked with illegal drug use. This can be a warning sign that provided objective information about illegal psychoactive substances can reduce the fear and the path towards drug use can become shorter. Haes (1987) stated, that purely informative or purely warning programs can have a stimulating effect on drug experimentation. Otherwise, they might have had false and strongly negative beliefs, which were corrected with the informative video. The shocking appeal significantly increased the perception of risks associated with occasional and regular illegal drug use. Interestingly, the shocking video and the informative video both significantly decreased the perception of risks associated with legal drug use. This finding is very important, as it shows that prevention programs and appeals about illegal drugs may lead to more positive attitudes towards legal drugs such as alcohol and tobacco. The expectation of the author of this thesis is that participants tend to think in this way: "If illegal psychoactive substances have dangers and risks, then maybe legal substances like alcohol and tobacco are good as they are legal." The recommenda-

tion is to provide objective and truthful information about the dangers and risks of legal psychoactive substances as well, and parallel to the programs about illegal psychoactive substances. The question which style of the video is more efficient to prevent the participants from dangerous consumption is controversial. The rational thought may be that if we tell people the truth about the effects and the dangers, they will avoid them. Haes (1987) says it can be dangerous to think that individuals act in a straightforward rational-economic manner on the basis of their knowledge as they tend not to. Why did the informative video have had no significant effects on the variables associated with illegal drug use? The effect was not significant, but the mean score of the attitudes to drug use was more positive after the informative video. Dusenbury and Falco (1995) indicate that adolescents are more interested in concrete information, and here and now experience. Effective curricula tend to contain information about drugs that is accurate and relevant – information that emphasizes short-term and negative social consequences of drug use, whereas extensive information about the types and effects of illegal drugs is not necessary, and may be counterproductive, according to Lowinson (2005).

After the statistical analysis was split by genders, greater differences between the informative and the shocking videos were shown. The tests indicated that the female participants had a lower attitude to drug use after the shocking video than before watching the video. This effect was not significant after the informative video. Contrary, the attitude to drug use tended to be more positive after the informative video. In addition, these differences were not significant for the male participants. Also, this gender effect was significant for the beliefs about consequences associated with drug use. There was only a significant difference between the beliefs about consequences associated with illegal psychoactive substance use before and after the shocking video as the post-video variable was significantly lower. This was shown neither for the male participants nor for the informative video.

Focusing on the affects after both of the videos, it is interesting that the participants stated the shocking video to be less boring and to be able to maintain the concentration better than with the informative video. On the other hand, this version was also significantly more emotional and the participants tended to feel worse. This can be a sign, that prevention programs might need emotional appeals to be better memorable and to capture the attention and the concentration of the target group. As Thomas Bernhard said, “Without excitation, there is absolutely nothing“. It was expected that the shocking video would be rated as not suitable for juveniles and not worth see-

ing, but there was no significant difference to the informative version. The participants largely stated both videos to be interesting and worth seeing.

The statistical analysis confirmed the academic literature that prior knowledge is not an important factor regarding the effects made by the different videos. The presumption of the author was that participants with existing knowledge about psychoactive substances would not be affected by the shocking video.

Interestingly, the shocking video had a stronger effect on the perception of risks associated with illegal drug use for participants who consumed illegal drugs at an earlier age. After the statistical analysis was split by gender, interesting differences between the informative and the shocking videos were shown. Female participants tend to have a greater perception of risks associated with only illegal drug use after the shocking video, but a lower perception of risks associated with legal and illegal drug use after they have watched the informative video. These effects were not shown for the male participants. These findings may have a possible hint for the future research on the gender differences in the prevention.

There is the question if preventive videos can affect cognitive and behavioral change of the individuals. Evidence exists for the effectiveness of prevention approaches for adolescents in mainstream populations and, most recently, for the use of computer- and Internet-delivered interventions to overcome barriers of implementation (Snijder et al., 2018). The findings in this study may be a beginning, but the author suggests that effective programs have to have more integrity and more work. The internet became a very fast changing and fast evolving place and the content seems to come and go very quickly. The author suggests focusing on smartphones and programming specific apps to reach the targets. Mass media campaigns are shown to be not effective in improving drug-related knowledge or reducing substance use as stated by Cuijpers (2003). The academic literature states, that a number of programs facilitated by computers (including other electronic devices such as tablets or mobile phones) or the Internet have been developed, with promising results in mainstream populations (Rodriguez, Teesson, & Newton, 2014). This and the fact that further advantages of computer- and Internet-delivered prevention programs include reduced implementation costs, higher degrees of implementation fidelity, and less need for personnel to deliver the program may be a tendency for the future (Champion, Newton, & Teesson, 2016).

The question if videos, aiming to reduce drug abuse and prevent people from damaging their physiological and psychological health like the shocking or the informative video used in this study, should be used in mass media has to be considered. Spruijt-Metz & Van Gageldonk (2000, as cited in Cuijpers, 2003) showed that in the field of health education, there is a broad consensus that mass media campaigns are not effective in changing risky behavior in general and this might be true for mass media and social media campaigns on psychoactive substance use. On the other hand, there are indications that mass media campaigns can increase knowledge and they may strengthen the effects of local or community interventions (Pentz et al., 1989, as cited in Cuijpers, 2003). Flynn et al. (1997, as cited in Cuijpers, 2003) confirmed this finding, which indicated that a mass media campaign in combination with a school program was more effective than the school program alone in the prevention of tobacco use.

The findings in this study regarding sensation seeking confirmed the academic literature that sensation seeking has a strong relationship to many factors associated with drug use (Zuckerman, 1979; Arnett, 1996; Segal & Singer, 1976). Sensation seeking is a strong predictor of legal and illegal drug use, also at a younger age, and tends to correlate with positive attitudes and fewer risks associated with drug use.

As expected by other authors (Twenge, 2006, as cited in Carter, Johnson, Exline, Post, & Pagan, 2012; Cohen, Chen, Crawford, Brook, & Gordon, 2007, as cited in Bruno et al., 2014; Acker, 2002; Tiebout, 1949, 1953, 1961, as cited in Carter et al., 2012), narcissism has a positive relationship with more drug use and significantly more frequent poly-drug use can be observed. Interestingly, participants with a higher score in narcissism tend to have a higher familiarity and awareness of drugs and a higher perception of risks associated with illegal drug use. Also, high levels of narcissism have been linked to sensation seeking as stated by Miller et al. (2009). Moreover, men tend to have slightly higher mean levels of narcissism measured with the NPI in the literature and the statistical analysis confirmed this as stated by Ames, Rose, & Anderson in (2006).

The gender differences in this academic work are significant in the factors of sensation seeking, narcissism, scores of the Drug Use Disorders Identification Test, attitudes towards drug use, familiarity and awareness of drugs, beliefs about negative and positive consequences linked with drug use, the age of beginning for illegal and legal drugs, and the perception of risks associated with legal and illegal drug use. Male participants tend to score significantly higher for each of

these variables than female participants. As stated by the academic literature (UNODC, 2013; Rosenblitt, Soler, Johnson, & Quadagno, 2001), the statistical data of this work confirms that men tend to consume illegal drugs more often than women on average and also in a more dangerous way, for example through poly-drug use. On the other hand, this study could not confirm the gender effects and differences for prescription drugs as the statistical analysis showed no significant differences.

The next research question was to test if marihuana/hashish are gateway drugs and predict more illegal drug consumption as stated by Kandel & Kandel (2015). The statistical analysis showed, that participants who tried marihuana at a younger age tend to consume other illegal psychoactive substances at a younger age as well. The limitation here is that the statistical analysis was only made for consumers and the participants who tried marihuana, other substances were not tested. Still, a younger age of beginning tends create a more positive attitude towards drug use and a higher score on the Drug Use Disorders Identification Test, which is a self-report screening instrument showing drug-related problems. Age of beginning for tobacco was also positively correlated with the age of beginning for cocaine. Tobacco might be a gateway drug for cocaine as stated by Volkow in 2011. Again, only consumers were tested. Still, early onset of psychoactive substance use has been identified as a risk factor for future substance use problems and other health, social, and family outcomes (Snijder et al., 2018). The prevention has to keep focusing on preventing substance abuse among adolescents, which has been identified as a key area to improve the health of many individuals.

Research question six focuses on the poly-drug use. The data shows no notable characteristics and expressions to undermine the idea. Still, poly-drug use can be more dangerous and hold more physical and psychic risks for the consumer than mono-drug use. This has to be communicated to the consumers, especially the actual findings of the neuro-physical studies.

The statistical data in this study showed a significant positive correlation between a psychopathological status and the Drug Use Disorders Identification Test. A higher score is shown to be a predictor of drug-related problems and sometimes a substance abuse/harmful use or dependence (Berman, Bergman, Palmstiema, & Schlyter, 2005). It is not possible to say what comes first, the psychopathological illness or the drug consumption. The illegal drugs may be used as self-medication and bring new physical and psychical problems. On the other hand, illegal psychoactive substances can awake psychopathological illnesses if the person has a predisposition.

The last part of the research questions focused on protective factors, such as a relationship, employment or prior knowledge about psychoactive substances. Participants in a relationship tend to score lower in the DUDIT, have a more negative attitude towards illegal drugs, and have fewer beliefs about positive consequences associated with drug use. The employment status was shown to have no such effects and the knowledge named as familiarity and awareness of drugs was shown to correlate positively with the DUDIT and experienced negative effects linked with illegal drug use. A relationship seems to be a protective factor, whereas knowledge seems not to be, as stated in the literature and before in the discussion. Knowledge tends to have little to no effect on the factors associated with drug use. Still, prevention tactics should include comprehensive skills training at the individual level in their work, combined with interactive intervention content focusing on enhancing social, emotional, and cognitive competencies and raising the resilience (Schwinn, Schinke, Hopkins, Keller, & Liu, 2018). The main factors of resilience include a positive self-image, competency when communicating, coping with stress, and managing mood (Hodder, Williams, Kelly, & McCarthy, 2017).

This study aimed to find new factors, which can help to make individuals physically and psychologically healthier. This questionnaire had the goal to help participants to reflect on possibly dangerous and risky illegal drug use. The best prevention and intervention is when the participant is implicitly motivated and wants to change by him- or herself. In addition, the intention was to provide more information about illegal psychoactive substances. Society has limited knowledge about the effects, the risks, and the dangers of legal and illegal drug use. On the other hand, some psychoactive substances might have healing effects as several new studies show, but this complicated issue is not part of this work.

Classic drug prevention often thinks and functions in the null-tolerance paradigm. It shows only the destroying and negative part of psychoactive substances. The programs work with fear appeals and shocking pictures of ending existences or dying individuals like before-drug and after-drug pictures or scenes like in the shocking video used in this study. They hardly ever focus on the psychological and physiological attractiveness of the substances on humankind. In consequence, the individuals do not really learn how to handle this attractiveness, when they face it. Furthermore, the prevention programs often talk about “the drugs” with no differentiation. Different psychoactive substances have different psychoactive effects on different individuals and

each individual has to be viewed as one. These are important factors for the credibility and the trustworthiness in the society, the politics, and the science.

A distinction has to be made between low-risk and high-risk consumption. It is not useful to view every consumer as a criminal. Still, many individuals in society do not know the difference. The danger of stereotyping is real. The view of the author is that the null-tolerance paradigm is not useful and brings more damage. Individuals who try the substance and notice the positive effects may lose their trust in the government.

The prevention programs should focus on the equal interactive work and view the target group as one of them. The programs should not be directive, but interactive. The target group and individuals needs to be reached and their acceptance needs to be won. It is necessary for people start to reflecting on their consumption critically, learning to be able to recognize problematic behavior and cognitive factors for themselves and other humans in their close environment. They have to know where they can get real help. All this information should be freely and widely available for everyone.

This also applies to the secondary prevention of already consuming individuals. It has to be asked why the individual started, what was the motivation, and if it was a coping strategy. Often, these individuals already know about the risks, but still, decide to consume. As seen in this study and shown by the statistical analysis, there is often the comorbidity of a psychopathological status with a risky illegal drug behavior. This factor is very important and has to be considered.

Society has to know the effects and the dangers of psychoactive substances, as this can decrease the stereotyping. Still, many people tend to think that drug abuse or drug dependency is their own fault and due to their weak will. They do not know that the dependency is a complex bio-psycho-social model. It cannot be helpful to view this psycho- and physiopathological illness as an individual weakness and liability. The author claims, the problems associated with drug consumption may lay in social psychological problems in society. On the one hand, drug abuse and the drug addiction can be an illness. On the other hand, thinking of drug addiction simply in terms of health and disease can be too reductive. Some individuals are able to consume psychoactive substances for years without any major disruption to their physiological and psychological health. This only becomes a problem, when it really becomes subjective suffering.

Recommendations for further research

Further research on effective prevention programs should focus on more long-term studies and look at how the different videos affect the participants cognitive factors in the long-term. In addition, real drug use has to be researched and not only the scores on a questionnaire. Also, a more randomized test group from different cultures would be more optimal. It would be interesting to include consumers of different psychoactive substances. For an optimal outcome, standardized methods of data collection, case identification and outcomes measurement in epidemiologic surveys and administrative databases are required. Furthermore, the development of a method for evaluating and comparing the internal validity of studies using administrative data is an important goal that will improve the methods of research in this area. More comprehensive ongoing surveillance and population-based surveys will improve the pertinence and quality of available data. It is important that future research not only focuses on the bad effect of illegal psychoactive impact substances but also implements the “positive” effects. Scientists and society should not be shaped by the paradigm that “all drugs are bad”. The modern notion of a drug itself is deeply embedded in the prohibition paradigm and implicated in its continuing survival.

The participants in this study are not representative of the population and the further research has to gain a broader population with consumers and without, and not only from the social media.

Furthermore, prevention research should focus on different groups. There should be more gender-specific drug abuse prevention programs, but it is known that only a few such programs exist (Elliot et al., 2008, as cited in Schwinn, Schinke, Hopkins, Keller, & Liu, 2018). The research and the prevention programs have to focus not only on the psychological risks, but on the gender-specific risks connected to mood, self-esteem, and coping with stress as well. More factors like past-month drug use, race, ethnicity, the education of the parents, geographic region, and the city type have to be viewed as well as this study was limited.

The challenge for future research has to be to increase the effect sizes of prevention programs. Cuijpers suggests (2003), that this could be realized by better examining the causal factors of drug use and abuse, and by examining the effective ingredients of school-based interventions. The academic research knows that, in most cases, problems with psychoactive substances disappear spontaneously when young people grow up. Here, the research has to focus more on protective factors like the relationship status as shown in this study, which tends to reduce the attitude

towards drug use and beliefs about positive effects associated with illegal drug use. There is only a very small proportion of people with continuing drug problems after the age of about 24 and drug problems are real subjective sufferings as there is a group of individuals, who continue consuming illegal drugs without getting problems. The goal is to examine the characteristics of those with continuing problems and those without to find the protective resiliency factors and to develop more intense prevention programs for subjects with a high risk of ongoing problems.

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Appendices

Abstract - English

Abstract - German

Classification of mental disorders related to psychoactive substance consumption

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Abstract - English

Illegal psychoactive substances, also referred to as illicit drugs, can be extremely dangerous for the physiological and the psychological health of human individuals. The preventive programs aim to discourage from risky drug abuse. Still, many individuals consume illegal psychoactive substances on a regular basis. The stronger current paradigm in the society is still the null-tolerance policy regarding drug-related problems. Many programs use shocking information that is often not based on real evidence to keep the individuals from consuming illegal drugs. This study tested how shocking and informative appeals in the form of videos affect participants, which factors tend to be favorable for illicit drug abuse and which can work as resiliency and protective factors. A total of 18- to 65-year-old participants ($N = 400$) were recruited via the social media platforms Facebook and Xing. They filled out an online questionnaire, watched a randomized informative or shocking video about illegal drug abuse as an appeal, and had to fill out a questionnaire straight after the video. The statistical analysis showed stronger effects for the shocking video on lowering the attitude to drug use, the beliefs about positive consequences associated with illegal drug use, and significantly increasing the perception of risks associated with illegal psychoactive substance use than for the informative video. Otherwise, both videos significantly decreased the perceptions of risks associated with legal drug use. Sensation seeking was found to be a risk factor for illegal drug use. As knowledge tends to be not a protective factor, participants in a relationship showed to have less positive attitudes towards drug use and less beliefs about positive consequences associated with drug use. Significant gender effects were found as the male gender tends to be more susceptible to drug abuse. The findings of this study support further research on this topic and the focus on protective factors. Furthermore, new media like social media and smartphones should be used in the topic of prevention from risky psychoactive substance use.

Keywords: drug prevention, fear appeals, sensation seeking, narcissism, gender and drug use.

Abstract – German

Illegale psychoaktive Substanzen, oft im Volksmund als Drogen bezeichnet, können für die physiologische und die psychologische Gesundheit des Menschen extreme schädlich und gefährlich sein. Die Präventionsprogramme zielen darauf ab den riskanten Drogengebrauch zu verhindern. Viele Menschen greifen trotzdem zum Konsum von illegalen psychoaktiven Substanzen. Das derzeitige stärker vorhandene Paradigma in der Gesellschaft ist die Nulltoleranz-Richtlinie. Viele Präventionsprogramme nutzen schockierende, unwissenschaftliche und falsche Informationen, um den Drogenmissbrauch zu verhindern und zu unterbinden.

Diese Studie testet wie schockierende und informative Reize in Form von einem Video zum Drogenkonsum sich auf die Teilnehmer der Studie auswirken, welche Faktoren den Drogenmissbrauch begünstigen und welche diesen verhindern könnten.

Eine Gesamtstichprobe von 18- bis 65-jährigen Teilnehmern ($N = 400$) wurde durch die Sozialmedienplattformen Facebook und Xing rekrutiert. Sie haben einen Fragebogen ausgefüllt, danach ein randomisiertes informatives oder schockierendes Video über illegale Drogen geschaut und sofort hiernach wieder einen Fragebogen online ausgefüllt.

Die statistische Auswertung zeigte stärkere Effekte beim schockierenden als beim informativen Video, das die Einstellung gegenüber illegalen Drogen und den Glauben an positive Konsequenzen mit Drogenkonsum verbunden signifikant verringerte. Konträr senkten beide Videos signifikant die Wahrnehmung von Risiken, die mit dem Konsum von legalen psychoaktiven Substanzen verbunden ist bei den Teilnehmern.

Sensation Seeking wurde wie von der Literatur erwartet als Risikofaktor für Drogenmissbrauch identifiziert. Wissen zu illegalen psychoaktiven Substanzen hat sich nicht als protektiver Faktor dargestellt. Teilnehmer in einer festen Beziehung teigten tendenziell niedrigere positive Einstellungen gegenüber illegalen Drogen und hatten weniger positive Annahmen zu Drogeneffekten als Teilnehmer ohne eine Beziehung. Zusätzlich wurden signifikante Geschlechtsunterschiede zum Drogenmissbrauch und zu Drogeneinstellungen seitens der Teilnehmer gefunden.

Die Ergebnisse dieser Studie stützt weitere Forschung zum Thema der Drogenprävention und schlägt vor, besonders auf protektive Faktoren zu achten und vermehrt neue Medien, wie das Smartphone dafür zu instrumentalisieren.

Schlagwörter: drug prevention, fear appeals, sensation seeking, narcissism, gender and drug use.

Classification of mental disorders related to psychoactive substance consumption

The ICD-10 is beyond the DSM-V the standard classification of mental disorders used for clinical, research, policy, and reimbursement purposes in the world and has one full block only for the mental and behavioral disorders due to psychoactive substance use (World Health Organization, 1992). It has to be stated, that the development of the diagnostic systems is closely tied to cultural and historical developments in the United States of America and Europe. Both are more Western-orientated. The following overview taken from the ICD-10 (World Health Organization, 1992) will show a short picture of the diagnoses after the consumption of psychoactive substances.

Overview of this block:

F10. – Mental and behavioural disorders due to use of alcohol

F11. – Mental and behavioural disorders due to use of opioids

F12. – Mental and behavioural disorders due to use of cannabinoids

F13. – Mental and behavioural disorders due to use of sedative hypnotics

F14. – Mental and behavioural disorders due to use of cocaine

F15. – Mental and behavioural disorders due to use of other stimulants, including caffeine

F16. – Mental and behavioural disorders due to use of hallucinogens

F17. – Mental and behavioural disorders due to use of tobacco

F18. – Mental and behavioural disorders due to use of volatile solvents

F19. – Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances

Four- and five-character codes may be used to specify the clinical conditions, as follows:

F1x.0 Acute intoxication

A transient condition following the administration of alcohol or other psychoactive substance, resulting in disturbances in level of consciousness, cognition, perception, affect or behaviour, or other psychophysiological functions and responses.

Acute intoxication is usually closely related to dose levels. Exceptions to this may occur in individuals with certain underlying organic conditions (e.g. renal or hepatic insufficiency) in whom small doses of a substance may produce a disproportionately severe intoxicating effect. Disinhibition due to social context should also be taken into account (e.g. behavioural disinhibition at parties or carnivals). Acute intoxication is a transient phenomenon. Intensity of intoxication lessens with time, and effects eventually disappear in the absence of further use of the substance. Recovery is therefore complete except where tissue damage or another complication has arisen.

Symptoms of intoxication need not always reflect primary actions of the substance: for instance, depressant drugs may lead to symptoms of agitation or hyperactivity, any stimulant drugs may lead to socially withdrawn and introverted behaviour. Effects of substances such as cannabis and hallucinogens may be particularly unpredictable. Moreover, many psychoactive substances are capable of producing different types of effect at different levels. For example, alcohol may have apparently stimulant effects on behaviour at lower dose levels, lead to agitation and aggression with increasing dose levels, and produce clear sedation at very high levels.

The following five-character codes may be used to indicate whether the acute intoxication was associated with any complications:

- .00 Uncomplicated
- .01 With trauma or other bodily injury
- .02 With other medical complications
- .03 With delirium
- .04 With perceptual distortions
- .05 With coma
- .06 With convulsions
- .07 Pathological intoxication

F1x.1 Harmful use

A pattern of psychoactive substance use that is causing damage to health. The damage may be physical (as in cases of hepatitis from the self-administration of injected drugs) or mental (e.g. episodes of depressive disorder secondary to heavy consumption of alcohol).

F1x.2 Dependence syndrome

A cluster of physiological, behavioural, and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours that once had greater value. A central descriptive characteristic of the dependence syndrome is the desire (often strong, sometimes overpowering) to take psychoactive drugs (which may or may not have been medically prescribed), alcohol, or tobacco. There may be evidence that return to substance use after a period of abstinence leads to a more rapid reappearance of other features of the syndrome than occurs with nondependent individuals.

A definite diagnosis of dependence should usually be made only if three or more of the following have been present together at some time during the previous year:

- (a) a strong desire or sense of compulsion to take the substance;
- (b) difficulties in controlling substance-taking behaviour in terms of its onset, termination, or levels of use;
- (c) a physiological withdrawal state (see F1x.3 and F1x.4) when substance use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms;
- (d) evidence of tolerance, such that increased doses of the psychoactive substances are required in order to achieve effects originally produced by lower doses (clear examples of this are found in alcohol- and opiate-dependent individuals who may take daily doses sufficient to incapacitate or kill nontolerant users);
- (e) progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects;

(f) persisting with substance use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy substance use, or drug-related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.

The diagnosis of the dependence syndrome may be further specified by the following five-character codes:

.20 Currently abstinent

.21 Currently abstinent, but in a protected environment

.22 Currently on a clinically supervised maintenance or replacement regime [controlled dependence]

.23 Currently abstinent, but receiving treatment with aversive or blocking drugs

.24 Currently using the substance [active dependence]

.25 Continuous use

.26 Episodic use [dipsomania]

F1x.3 Withdrawal state

A group of symptoms of variable clustering and severity occurring on absolute or relative withdrawal of a substance after repeated, and usually prolonged and/or highdose, use of that substance. Onset and course of the withdrawal state are time-limited and are related to the type of substance and the dose being used immediately before abstinence. The withdrawal state may be complicated by convulsions.

Withdrawal state is one of the indicators of dependence syndrome (see F1x.2) and this latter diagnosis should also be considered. Withdrawal state should be coded as the main diagnosis if it is the reason for referral and sufficiently severe to require medical attention in its own right.

Physical symptoms vary according to the substance being used. Psychological disturbances (e.g. anxiety, depression, and sleep disorders) are also common features of withdrawal. Typically, the patient is likely to report that withdrawal symptoms are relieved by further substance use.

It should be remembered that withdrawal symptoms can be induced by conditioned/learned stimuli in the absence of immediately preceding substance use. In such cases a diagnosis of withdrawal state should be made only if it is warranted in terms of severity.

The diagnosis of withdrawal state may be further specified by using the following five-character codes:

.30 Uncomplicated

.31 With convulsions

F1x.4 Withdrawal state with delirium

A condition in which the withdrawal state (see F1x.3) is complicated by delirium.

The diagnosis of withdrawal state with delirium may be further specified by using the following five-character codes:

.40 Without convulsions

.41 With convulsions

F1x.5 Psychotic disorder

A cluster of psychotic phenomena that occur during or immediately after psychoactive substance use and are characterized by vivid hallucinations (typically auditory, but often in more than one sensory modality), misidentifications, delusions and/or ideas of reference (often of a paranoid or persecutory nature), psychomotor disturbances (excitement or stupor), and an abnormal affect, which may range from intense fear to ecstasy. The sensorium is usually clear but some degree of clouding of consciousness, though not severe confusion, may be present. The disorder typically resolves at least partially within 1 month and fully within 6 months.

The diagnosis of psychotic state may be further specified by the following five-character codes:

.50 Schizophrenia-like

.51 Predominantly delusional

.52 Predominantly hallucinatory

.53 Predominantly polymorphic

.54 Predominantly depressive symptoms

.55 Predominantly manic symptoms

.56 Mixed

F1x.6 Amnesic syndrome

A syndrome associated with chronic prominent impairment of recent memory; remote memory is sometimes impaired, while immediate recall is preserved. Disturbances of time sense and ordering of events are usually evident, as are difficulties in learning new material. Confabulation may be marked but is not invariably present. Other cognitive functions are usually relatively well preserved and amnesic defects are out of proportion to other disturbances.

Amnesic syndrome induced by alcohol or other psychoactive substances coded here should meet the general criteria for organic amnesic syndrome (see F04). The primary requirements for this diagnosis are:

- (a) memory impairment as shown in impairment of recent memory (learning of new material); disturbances of time sense (rearrangements of chronological sequence, telescoping of repeated events into one, etc.);
- (b) absence of defect in immediate recall, impairment of consciousness, and of generalized cognitive impairment;
- (c) history or objective evidence of chronic (and particularly high-dose) use of alcohol or drugs.

F1x.7 Residual and late-onset psychotic disorder

A disorder in which alcohol- or psychoactive substance-induced changes of cognition, affect, personality, or behaviour persist beyond the period during which a direct psychoactive substance-related effect might reasonably be assumed to be operating.

.70 Flashbacks

.71 Personality or behaviour disorder

.72 Residual affective behaviour

.73 Dementia

.74 Other persisting cognitive behaviour

.75 Late-onset psychotic disorder

F1x.8 Other mental and behavioural disorders

Code here any other disorder in which the use of a substance can be identified as contributing directly to the condition, but which does not meet the criteria for inclusion in any of the above disorders.

F1x.9 Unspecified mental and behavioural disorder

This necessary wide variety of disorders and broad range of possible diagnostics show that the consumption of psychoactive substances is a possible risk for the health.

The World Health Organization (1992) states that narrowing of the personal repertoire of patterns of psychoactive substance use has also been described as a characteristic feature (e.g. a tendency to drink alcoholic drinks in the same way on weekdays and weekends, regardless of social constraints that determine appropriate drinking behaviour). It is an essential characteristic of the dependence syndrome that either psychoactive substance taking or a desire to take a particular substance should be present; the subjective awareness of compulsion to use drugs is most commonly seen during attempts to stop or control substance use. This diagnostic requirement would exclude, for instance, surgical patients given opioid drugs for the relief of pain, who may show signs of an opioid withdrawal state when drugs are not given but who have no desire to continue taking drugs. The dependence syndrome may be present for a specific substance (e.g. tobacco or diazepam), for a class of substances (e.g. opioid drugs), or for a wider range of differ-

ent substances (as for those individuals who feel a sense of compulsion regularly to use whatever drugs are available and who show distress, agitation, and/or physical signs of a withdrawal state upon abstinence).

As for the American system based on the Diagnostic and Statistical Manual of Mental Disorders (DSM) there was a great change coming with the actual manual DSM-V. The DSM is regarded as the defining standard for mental health diagnoses not only in the United States of America but also in the world and also includes the diagnose of the substance use disorder called SUD. The newest version of this diagnostical system erased the Abuse-Dependence paradigm and therefore combines Abuse and Dependence into a single unified category and measures severity on a continuous scale from mild (2–3 symptoms endorsed), moderate (4–5 symptoms endorsed) and severe (6 or more symptoms endorsed) out of 11 total symptoms (versus the previous 7) (Robinson & Adinoff, 2016). In other new change was the addition of the craving criterion and the removal of the legal problems criterion.

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