Prevalence and prevention of substance use in nightlife

Tina Van Havere

Promotor: Prof. Dr. E. Broekaert

Proefschrift ingediend tot het behalen van de academische graad
van Doctor in de Pedagogische Wetenschappen

2012
Begeleidingscommissie:

Prof. Dr. Eric Broekaert (promotor), Universiteit Gent, Vakgroep Orthopedagogiek

Prof. Dr. Wouter Vanderplasschen, Universiteit Gent, Vakgroep Orthopedagogiek

Prof. Dr. Freya Vander Laenen, Universiteit Gent, Vakgroep Strafrecht en Criminologie

Prof. Dr. Nicole Vettenburg, Universiteit Gent, Vakgroep Sociale Agogiek

Prof. Dr. Mark Bellis, Liverpool John Moores University, UK, Centre for Public Health
Preface

Epidemiological studies have shown that so-called party people (a global term for people who visit clubs, parties of all kinds, music festivals and dance events) are more experienced with illegal drugs (Chen, Miller, Grube, & Waiters, 2006; Forsyth, Barnard, & McKeganey, 1997; McCaughan, Carlson, Falck, & Siegal, 2005; Measham, Aldridge, & Parker, 2001; Yacoubian, Boyle, Harding, & Loftus, 2003). In Belgium, little is known about the substance use of people who go out. The only national source of information regarding this scene is (sensational) media attention when people are hurt or killed while going out under the influence of drugs. Therefore, analyzing the situation in Flanders is necessary so that tailor made prevention and harm reduction initiatives can be developed.

Drug prevention in the nightlife scene has made an important evolution in the last decade. More and more attention is being given to the groups of young people who work hard during the week and try to relax at the weekend. It’s their way to counterbalance their responsibilities during the week, but also to cope with the expectations which are growing as our society becomes more complex. To prevent these young people from harm, it is necessary to explore their substance use and the factors which influence it. Therefore, we will look into the set (person itself), setting (nightlife) and the drugs. According to Zinberg (1984), the interaction between these three factors defines whether one will get into trouble or not with his/her substance use. This also implies that young people can control their drug use without causing damage to their well-being and health.

The long-term aim - which goes further than this dissertation - is to improve the quality of life of young people who go out. Therefore, the central aim of this dissertation is to explore the drug use and characteristics of people who go out in Flanders. Whether these party people face problems and how they stay away from problems. Analyzing the situation is not the goal itself; an action science such as pedagogical sciences integrates this data in an imperative cycle to evolve to a pedagogical action (Broekaert, De Fever, Schoorl, Van Hove, & Wuyts, 1997). This dissertation will translate conclusions of the studies into suggestions for health and social workers. The reader will notice that in every chapter the link is made to more practical prevention and harm reduction tips.

1 Substrate (use)/drug (use): this term is used to refer to (the use of) legal (alcohol, medication,...) and illegal drugs. The term illegal drug refers to all illegal substances. However, terminology can differ in the consequent chapters according to the journal published in.

2 The terms “club”, “dance” or “party” drugs emerged in close relation with the apparent ubiquity of illegal substances (mainly ecstasy) that are used at parties and contemporary club settings. Typical party drugs include not only illegal substances like ecstasy and cocaine, but also legal substances such as alcohol. In this dissertation the main focus will be on these ‘party drugs’. However, terminology can differ in the consequent chapters according to the journal published in.
Attention is given to the influence of gender, age and patterns of going out on drug use, the evolutions in party drugs, the role of drug use in the goa scene and the focus on media in prevention initiatives. In chapter 1, the problem and conceptualization of recreational drug use are discussed. We will also focus on the responses to recreational drug use in Europe and Belgium with an explicit focus on the orthopedagogical approach. Furthermore, the research questions and the design of the study are outlined. Chapter 2 explores the influence of gender and age on the use of alcohol and illegal drugs. In chapter 3 we focus on the patterns of nightlife of the respondents, such as music preference, frequency of going out and sampling venue and analyze their correlation with alcohol and illegal drug use. Chapter 4 discusses the evolutions over time in the use of cannabis, ecstasy, cocaine and amphetamines. In chapter 5 we highlight one specific group of party people, namely the attendees of goa-parties, and look more in depth into the role of drug use in this scene. Furthermore, we explore the preventive measures they take to minimize risks from using drugs. Chapter 6 describes prevention initiatives in nightlife which use electronic media to target their audience.

The dissertation comprises several papers, which have been submitted for publication, are currently under editorial review or have already been published. Consequently, to make each of the papers self-containing and to meet the editors’ requirements, the content of some of the chapters may overlap and the terminology used (e.g. substance use/abuse) might differ.
Acknowledgements

This dissertation is the result of years of work, but wouldn’t have been finished without the support of many people which have inspired, supported and stimulated me to pursue and finalize my dissertation.

First of all, I would like to thank the many (almost 3000!) respondents to give some time while going out. This could be in the middle of the night or after a hard day work. All of them gave their experience and personal thoughts on drug use. Without giving me their trust, I wouldn’t be able to shed a light on this group of young people and the sensible topic of legal and illegal drug use. Obviously, I will not be able to contact them all again, but I hope they will notice the extra efforts that are taken in the nightlife scene to prevent them from harm.

I started this study in the context of my former job at VAD. I will never forget my former colleagues and the opportunities that were given me by the director Marijs Geirnaert to build this research which is still conducted by VAD. Thank you, Marijs, for the trust you give me and the opportunity to write a dissertation with the collected data. Special thanks to Jochen Schrooten for an endless list of things: being a great desk colleague, participating as a researcher, introducing his own experience as a DJ, having lots and lots of talks, brainstorming on new theories, etc. I hope this dissertation will inspire you even more and stimulate the work you’re doing with Partywise. Warm thanks also for the former VAD-colleagues Else, Tom E., Johan, Mieke and all other ex-colleagues for participating in this research and being enthusiastic and interested.

Furthermore, special thanks to my supervisor, Prof. Dr. Eric Broekaert. Thank you for the inspiration, ideas and academic support. You challenged me to deepen results and bring them to a higher level. Many thanks to Prof. Dr. Wouter Vanderplasschen, who had a lot of patience with me. The road to this dissertation was not always without obstacles and when my motivation was hiding, you managed to put me back on track. Thank you for being my coach and guide in this long process.

Warm thanks to Jan Lammertyn who put me back on track when wondering around in the world of statistics. I also appreciated your efficient time management which can be very valuable in the process of writing an article.

I would like to thank the other members of my doctoral guidance committee too: Prof. Dr. Freya Vander Laenen, Prof. Dr. Nicole Vettenburg and Prof. Dr. Mark Bellis. Thanks for your supervision, feedback and introducing new ideas in my research (and having a drink in Amsterdam or Ibiza). I hope we will keep on working together.
Thanks to my current colleagues of the University College of Ghent to support me in the last phase of this dissertation. Special thanks to Dr. Claudia Claes, Prof. Dr. Stijn Vandevelde, Leen Poppe, Johan Jongbloet, Peer Van der Kreeft, Marie-Rose Pauwels and Maurice Walgraeve, dean of the Faculty of Education, Health and Social Work for believing and encouraging me to fulfil this personal project.

Thank you to all my friends and family for being interested in this project and supporting me to keep on going all these years. Special thanks to Karen, Freia, Elke, Nadia, Inge, Jeroen, Bart, Marliese and Lieselotte who were very supportive and helping me recruit respondents at festivals or in clubs.

I would like to take this opportunity to put forward my appreciation and thanks to my parents who have been supporting and still support me in every step I take. Your support, your presence in hard times, the (small for you, long for me) runs, the door which is always open, have been of great value for me and I know this will not change in the future. Your daughter is finally finalizing her dissertation and ready for the next challenge.

And finally Kenneth. Conducting this research and writing this dissertation was not always without sorrows. Thank you for your motivating words and being the rock I sometimes needed (sometimes to crawl under). Your patience when I couldn’t talk but needed your presence and warmth, your understanding when leaving at midnight to go to clubs. We also shared the joys and when an article was published you made sure we had a drink to that. You were the first one I asked for advice on this project and I still remember your rational and supporting arguments. Thank you for believing in me. And of course I will not forget to thank our daughter, Bo, who is sleeping outside in the garden right now, giving her mom a moment of time to write her final words in her dissertation. Even before you were born you’re presence gave me the energy to write down the last chapters. Two days before your birth I finished all chapters (except this part). I hope we will give you the same support and guidance to fulfil your academic goals as I have been given.
# Table of Contents

1. **General Introduction**  .......................................................... 11
   - Abstract ........................................................................... 12
   1.1 Problem analysis ......................................................... 12
   1.2 Responses to recreational drug use .......................... 18
   1.3 The aims and specific research questions .............. 30
   References ........................................................................ 33

2. **The influence of age and gender on party drug use among young adults attending dance events, clubs, and rock festivals**  .......................................................... 43
   - Abstract ........................................................................... 44
   2.1 Introduction .................................................................. 44
   2.2 Method .......................................................................... 46
   2.3 Results .......................................................................... 50
   2.4 Discussion .................................................................... 54
   References ........................................................................ 59

3. **Drug use and nightlife: More than just dance music**  .......................................................... 65
   - Abstract ........................................................................... 66
   3.1 Introduction .................................................................. 66
   3.2 Method .......................................................................... 68
   3.3 Results .......................................................................... 72
   3.4 Discussion .................................................................... 76
   References ........................................................................ 83

4. **Illicit drug use in the Flemish nightlife scene between 2003 and 2009**  .......................................................... 89
   - Abstract ........................................................................... 90
   4.1 Introduction .................................................................. 90
   4.2 Method .......................................................................... 92
   4.3 Results .......................................................................... 97
   4.4 Discussion .................................................................... 99
   References ........................................................................ 103
5. **Keep an eye on your friends, even when you don't know them** .......................................................... 107
   - Abstract .......................................................................................................................... 108
   - 5.1 Introduction .............................................................................................................. 108
   - 5.2 Method ..................................................................................................................... 110
   - 5.3 Results ..................................................................................................................... 112
   - 5.4 Discussion ................................................................................................................ 118
   - References .................................................................................................................... 122

6. **Using media in alcohol and drug interventions in nightlife** ....................................................... 125
   - Abstract .......................................................................................................................... 126
   - 6.1 Introduction .............................................................................................................. 126
   - 6.2 Method ..................................................................................................................... 128
   - 6.3 Results ..................................................................................................................... 131
   - 6.4 Discussion ................................................................................................................ 134
   - References .................................................................................................................... 144

7. **General discussion** ............................................................................................................... 151
   - Abstract .......................................................................................................................... 152
   - 7.1 Introduction .............................................................................................................. 152
   - 7.2 Main findings .......................................................................................................... 152
   - 7.3 Implications for the nightlife setting and its different implementation levels .......... 157
   - 7.4 Limitations of the study and recommendations for future research ...................... 170
   - References .................................................................................................................... 173

Samenvatting ......................................................................................................................... 181
Chapter 1

General Introduction
Chapter 1

Abstract

In this chapter, we introduce the major themes on which this dissertation is based. The first part looks at the problem analysis: drug use in adolescence, the prevalence of drug use in Flanders and the different levels of drug use - from recreational drug use to problem drug use. Secondly, we focus on the responses to this recreational drug use: the concept of normalization is explained, international and Belgian drug policy, different forms of prevention and harm reduction and the orthopedagogical response is explained. Finally, the specific aims of this study are presented as well as the research questions.

1.1 Problem analysis

1.1.1 Adolescents, young adults and drug use

It is well known that adolescence in the Western culture is a turbulent time in growing up from ‘childhood’ to ‘adulthood’. It is a phase of fundamental changes (physical, social, emotional, moral and cognitive) together with new expectations and obligations (Verhofstadt - Denève, 1998). During adolescence young people explore their identities and roles. To avoid standing alone, losing friends or experiencing problems with their own identity, it is essential to link with the expectations of a group. For this reason, it is easier to imitate behaviour of friends (Engels & Scholte, 2009). As part of this exploration and experimentation, adolescents might engage in high-risk behaviour. Moreover, adolescents are freer to engage in acts of delinquency and deviance because their bond with school and family has weakened, but has yet to be replaced by a new set of adult roles and responsibilities (Measham & Shiner, 2009). At the same time, they may be exposed to greater availability of drugs, drug users, and social activities involving drugs (National Institute on Drug Abuse, 2003). So it is not surprising that youngsters in their early adolescence encounter drugs for the first time. Moreover, most young people will at some point experiment with legal and illegal drugs. Another important transition is when young adults leave home for college or work and are on their own for the first time. Their risk for illegal drug and alcohol use is also very high (National Institute on Drug Abuse, 2003). So it is not only early adolescents, but also young adults who are more likely to experiment with drugs. Parker and his colleagues argue that recreational drug use is today deeply embedded in a range of pacific and interrelated social processes including ‘changes in education and training, the youth labour market, housing and living arrangements, marriage and family’ (Parker, Aldridge, & Measham, 1998).

Clubbing or going out during the weekend is a very popular activity among young people. People go out with their friends with the idea to meet other people, to have
fun, to listen to music, etc. and very often to drink alcohol (Calafat & Pompidou Group Prevention Platform, 2010). The weekend is a period defined in very positive terms for it contains an association with ‘freedom’, which is understood in terms of lack of commitments, obligations and responsibilities. On weekends they are looking for a time out with structure and young people aim to search for new and immediate experiences (Calafat et al., 2001). Many young adults are initiating the use of party drugs in their early twenties, and this often occurs in the context of a dance club. Users see their drug use as a part of their leisure time in which they want to party and have fun (Shapiro, 1988) and assign positive functions to their use (Decorte, Muys, & Slock, 2003). The effects of the substances stimulate this search for fun: drinking alcohol brings about a reduction of inhibitions, increased relaxation and sociability. Ecstasy can induce euphoria and a sense of intimacy with others, increased energy... Furthermore, the use and problem use of alcohol and illegal drugs are frequent in nightlife. As a consequence many young people feel that their use is not very dangerous (Calafat & Pompidou Group Prevention Platform, 2010).

Distinct reasons are observed to start experimenting with legal and illegal drugs within adolescence: rebellion, self exploration, belonging to group of friends, de-stressing... but especially because it feels good and young people don’t experience negative consequences (Broekaert et al., 2010). The majority use drugs for positive reasons. In these transition phases (adolescence and young adults leaving home), drug use can be seen as part of a youth culture, without defining it as problem use. Concluded, we should take into account that most young people are using for positive reasons and it might be a temporary act which is part of growing up. Users mature out of drug use and this is often a consequence of a physical maturational process, combined with the reduced hedonic pleasure from substance use altering the reward pay-off (McIntosh & McKeganey, 2000). However, for a minority, problems occur. Therefore, interventions should focus on decreasing risks or harmful use.

1.1.2 Prevalence of drug use

Belgium is one of the few countries in Europe that doesn’t conduct a prevalence study on illegal drug use within the general population (Decorte, Mortelmans, Tieberghien, & De Moor, 2009). Only the Health Interview Survey includes a few questions on alcohol and illegal drugs (Gisle et al., 2010). The Association for Alcohol en Drug Problems (VAD) surveyed students from secondary school (Kinable, Bernaert, Maeseneire, Geirnaert, & Rosiers, 2010) and participated in a survey of students in higher education (+18 year) (Rosiers, Hublet, Van Damme, Maes, & Van Hal, 2011). Globally, European comparisons makes it clear that Belgium is average in its use of illegal drugs (Gisle, et al., 2010). We will focus on the different party drugs in the context of this dissertation. The terms “club”, “dance” or “party” drugs emerged in close relation with the apparent ubiquity of illegal substances (mainly ecstasy) that are used at parties and contemporary club
settings (Sanders, 2006). Typical party drugs include not only illegal substances such as ecstasy and cocaine, but also legal substances such as alcohol. These drugs are used for different purposes - stimulation, friendship, disinhibition, listening to the music, etc.

Alcohol is well accepted in our Western culture and high frequencies can be expected in the surveys. 81% of the general population in Belgium (from 15 years and older) drank alcohol in the last 12 months prior to the survey. The number of daily alcohol users increased from 9% in 2004 to 12% in 2008 (Gisle, et al., 2010). In the age group of students of secondary school the last year prevalence of alcohol decreased over the years from 73.5% in 2000-2001 to 62.4% in 2009-2010. Last month use of alcohol was reported by 48% of the students (Kinable, et al., 2010). 92.4% of students in higher education (+18 year) reported drinking alcohol in the last year (Rosiers, et al., 2011).

Using illegal drugs is most popular in the group of 15 to 34 year olds. The most used illegal drug in Belgium is cannabis. 5% of the general population smoked cannabis in the last year and 3% in the last month (Gisle, et al., 2010). In the age group 12 to 18 year olds, 13% smoked cannabis in the last year and 8% in the last month. No evolution was seen in the last year prevalence, but regular use decreased from 5 à 6% in the first registration years (2000-2001) to around 3% since 2004-2005 (Kinable, et al., 2010). 22.9% of the higher education students smoked cannabis in the last year (Rosiers, et al., 2011). On European level cannabis use seems to have stabilized in some countries (UK and France, for example), but increased in a few other countries (Italy and Slovakia, for example) (EMCDDA, 2010).

Data about other illegal drugs than cannabis (e.g. cocaine, ecstasy, amphetamines) show that 1.5% of the respondents in the general population of Belgium used one of these drugs in the last year and around 0.9% in the last month (Gisle, et al., 2010). In secondary school, 2.6% of all the students used an illegal drug other than cannabis in the last year and 1.3% in the month prior to the survey. The last year prevalence of ecstasy, amphetamines, cocaine, trips, GHB and heroin is respectively: 1.1%, 1.2% 1.1%, 0.9%, 0.3% and 0.2% (Kinable, et al., 2010). The use of other illegal drugs than cannabis is also limited among students in higher education. 2.6% of the students used amphetamines, 2.6% ecstasy and 3.2% cocaine (Rosiers, et al., 2011). At European level, some experts have stated that ecstasy has reached a plateau phase, as is the case with amphetamines, with the use of the latter possibly even decreasing (EMCDDA, 2009; Maxwell, 2004; Measham, 2004; OFDT, 2000). Cocaine shows different patterns in Europe: in some countries a stabilization is noticed, whereas in other countries the prevalence of cocaine use more than doubled, but still remained low (EMCDDA, 2010). No Belgian information is available on the use of GHB or ketamine, but globally, the use of GHB and ketamine has been reported by dance drug users (Degenhardt, Copeland, & Dillon, 2005; Ramo, Grov, Delucchi, Kelly, & Parsons, 2010). Combined use of alcohol and illegal drugs or various illegal drugs has been identified in various studies on
nightlife (Benschop, Nabben, & Korf, 2011; Calafat et al., 1999; Measham, et al., 2001; Riley & Hayward, 2004; Tossmann, Boldt, & Tensil, 2001).

1.1.3 From (recreational) drug use to substance dependence and other problem use

Multifactorial model
Experimenting with drug use is progressively taking place at younger ages (Zilberman, Tavares, & El-Guebaly, 2003). Earlier surveys have shown that if there is a descent in the age at which substance use starts, it generally implies a greater use of other substances and a higher level of addiction (Calafat, et al., 1999; National Institute on Drug Abuse, 2003).

It is clear that a multifactorial model is needed when looking at the development of drug use and problem use. Mostly, these factors are divided in three categories: physical, psychological and social factors or as Zinberg refers to as drug, set and setting (Franken & van den Brink, 2009; Sengers, 1990; Van Dijk, 1979; Zinberg, 1984).

In the last 25 years of neuroscience research evidence have shown that addiction is a disease of the brain (Volkow et al., 2010). The initial decision to take drugs is mostly voluntary. However, when drug abuse takes over, a person’s ability to exert self control can become seriously impaired. In the model of Volkow, addiction emerges as an imbalance in the information processing and integration among various brain circuits and functions. The dysfunctions reflect (a) decreased sensitivity of reward circuits, (b) enhanced sensitivity of memory circuits to conditioned expectations to drugs and drug cues, stress reactivity, and (c) negative mood, and a weakened inhibition circuit. Taking this into account, it can turn drug use from an act of free will into an automatic compulsive behaviour (Volkow, et al., 2010). Furthermore, the influence of drug use on the brain implies an extra argument to focus interventions on adolescents and young adults because the brain is still developing.

Problem use versus substance dependence
Not every experimenting young person will get into trouble. Some young people are more likely to go on to develop serious drug problems than others (Lloyd & Griffiths, 1998). So there is a need to differentiate between drug use and problem use. Although some young persons who use drugs might be at risk of future problem use, labelling them as having drug problems may in itself be counterproductive (Lloyd & Griffiths, 1998). Globally taken, substance dependence is mostly a combination of physical dependency, psychological dependency, loss of control, and physical and/or social consequences of uncontrolled use (Engels & Scholte, 2009).
Internationally, two important classification systems (DSM-IV and ICD-10) define substance abuse, substance dependence and harmful use. In DSM IV substance abuse is characterized by the recurrent use within 12 months which results in problems in fulfilling major role obligations, dangerous physical problems, legal problems and the continued use after having persistent problems (American Psychiatric Association, 2001). Harmful use, as defined in ICD-10, is not similar to this substance abuse, because the threshold for harmful use is much higher than the one for substance abuse. The criteria for harmful use include clear evidence of physical or psychological harm which should be clearly identifiable and the pattern of use should persist for at least 1 month or occurs repeatedly within a 12-month period (Van den Brink, 2009). For the diagnosis of substance dependence the DSM-IV describes tolerance, withdrawal, longer use than planned and unsuccessful efforts to cut down. Furthermore, for substance dependence the use resulted in a great deal of time spent on activities related to this drug use, important activities are reduced or given up and despite persistent problems continued use is seen (American Psychiatric Association, 2001). If we compare the criteria of the ICD-10 and the DSM-IV, similar criteria for substance dependence are seen in both classification systems (Broekaert, Vanderplasschen, et al., 2010). However, craving is included in the criteria of dependence in the ICD-10 (Van den Brink, 2009). Craving as part of psychological dependency is not included in the DSM-IV, which is odd since psychological dependency is assumed to be the most central characteristic of substance dependence (Engels & Scholte, 2009).

In this dissertation we will focus mostly on non-problematic use. However, as will be clear from the next section, the line between (recreational) drug use and problem use is very fine. Prevention, harm reduction and early intervention need to prevent the escalation to problem drug use.

1.1.4 Recreational drug use, what’s in a name?

In international studies several definitions of recreational drug use can be found, mostly focused on the recreational setting nightlife. In all definitions (MacKenzie, Hunt, & Joe-Laidler, 2005; Olszewski & Burkhart, 2002; Parker, 2005) recreational drug use is linked to having fun and not having problematic consequences of this use in any way. The main part of this research tradition analyses drug consumption patterns that have not caused severe harm to the majority of the drug users and drug consumption that is restricted to the leisure sphere and does not interfere with the normal functioning of the drug user (Järvinen & Ravn, 2011). Some authors state that recreational drug use is different from problem drug use because of the severe physical, psychological and social consequences and the development of tolerance and dependence (Olszewski & Burkhart, 2002). From this perspective recreational drug use can be a controlled activity (Järvinen & Ravn, 2011; Parker, 2005) and users are not deviant, sick or criminal but use informal social controls to restrict their own use (Zinberg, 1984).
Most recreational drug use is part of a balanced consumer lifestyle — and limited to a particular phase in a young person's life before work and family responsibilities take over (Chen & Kandel, 1998; Gotham, Sher, & Wood, 1997; Olszewski & Burkhart, 2002). This 'controlled consumption as appropriate consumption' is part of the neo-liberal discourse. This discourse also includes 'the right to exercise personal freedom' and 'economic citizen'. From this point of view users are not positioned outside of society, but these repertoires are used by drug users to explain their own drug use congruent with responsible citizenship. In this context users are rational risk managing subjects engaging in a form of calculated hedonism, legitimated as an act of personal freedom and consumer choice (Riley, Thompson, & Griffin, 2010).

Does this mean that controlled use or recreational use never causes problems or damage? It is believed that even recreational drug use can sometimes turn into problem use, not yet characterized by criminal activities (e.g. dealing) or substance dependence symptoms. VAD (the Association for Alcohol and other Drug problems) names this occasional risky behaviour: drugs have been taken in the wrong place at the wrong time (De Donder et al., 2002). This might cause security risks (e.g. car accident) or health risks (e.g. ecstasy pill with PMA which causes hyperthermia). Whether ones comes into trouble depends on the interaction between the properties of the substance itself (drug), the individual drug taker's mood, experience and expectations (set), and the environment within which the drug is taken (setting) (Zinberg, 1984).

Although there is a group of young users in the nightlife scene who are experiencing recreational drug use, the line to more problem use is thin. Some users are not (yet) in contact with the treatment centres, but are having negative consequences of their drug use. In a study of Pijlman and colleagues 1% of the party people (registration between 1996 and 2002) visited the first aid service with serious health problems. Mostly (60%) milder complaints such as headache, nausea, fear, disorientation... were registered. However, 1% of the patients presented serious symptoms like conscience impairments, psychosis,... (Pijlman, Krul, & Niesink, 2003). There appears to be a hard core of heavy recreational users. These are often portrayed as people who push boundaries and display a form of tough, physical, 'better to be mad than sad' hedonism (Olszewski & Burkhart, 2002, p. 2). Järvinen & Ravn (2011, p. 555) studied a group of recreational drug users in transfer to regular drug use and defined their selection as 'young people who's pattern of drug use has started to spill over into weekdays and that has sometimes caused them trouble (in relation to school, work, social networks and so on'). Furthermore, recreational drug use can become regular use or cause substance dependence after persisting in its use (De Donder & Lambrechts, 2002).

In conclusion, controlled use is possible and mostly seen in recreational settings like the nightlife scene and should be recognized as being distinctive from problem drug use (Parker, 2005). However there is a thin line to problem drug use. Furthermore, we
can conclude that controlled drug use in the recreational setting is called recreational drug use. The focus of this dissertation is on the group of recreational users.

1.2 Responses to recreational drug use

1.2.1 Normalization of drug use in recreational settings

Together with the concept of recreational drug use in the nineties, another evolution was seen in the nightlife scene: the normalization of drug use (O’Callaghan & Hannon, 2003; Parker, et al., 1998). The normalization debate of recreational drug use has attracted considerable attention and has tended to polarize opinion within the field (Measham & Shiner, 2009). Although the debate is still continuing they all agree on some central key aspects: drug use cannot be banned or legislated out of existence and illegal drug use is an unavoidable, widespread social activity, rather than a deviant one (Erickson & Hathaway, 2010). So drug use can no longer be seen as part of a subculture (Parker, Williams, & Aldridge, 2002) which is deviant, but drug use fits more in the theory of deviance as a pleasure-seeking and consumer theory. Parker, Aldridge and Measham (1998) identified six dimensions in the normalization thesis: drug availability, drug trying rates, current use, intended future use, being ‘drug wise’ regardless of individual experiences with drugs and evidence of a cultural accommodation in wider society. This thesis emphasizes a rational action model of adolescent drug use, but downplays the role of structural influences, like inequalities in the society (Measham & Shiner, 2009), and cultural differences (Cheung & Cheung, 2006). In the nightlife scene a big economy, the so called night-time economy, also influences the consumer behaviour of young people.

The attitude of young people today towards substance use is not the same for everyone, and there are many young people who choose not to use drugs or to do so only occasionally or moderately. Nevertheless, for those who participate in recreational life, substance use is almost the norm (Calafat et al., 2003). Going out without drinking alcohol for example becomes difficult. In respect to cannabis use, the process is sufficiently advanced to allow the claim that recreational cannabis use is largely normalized (Parker, et al., 2002). The process is less advanced for stimulant use as the use of amphetamine, ecstasy and cocaine (Parker, 2005). Furthermore, non-users who go out regularly are not surprised anymore when seeing someone use drugs. Users themselves are using more in the open (Van Havere, De Donder, Geirnaert, & Schrooten, 2008). However, although clubbers offer much support for the normalization thesis, their excesses are not as acceptable outside this semi-private setting (Parker, et al., 2002).
Whether or not the normalization model is the most reality based model, the key issue is about public health and the rights of younger citizens to be fully informed about how to better manage their going out adventures and acknowledge the longer-term risks associated with their drug use (Parker, 2005). There is no all-encompassing theory, but the insights of different theories can help us to understand the possible problem (Broekaert, Van Hove, Bayliss, & D’Oosterlinck, 2004).

1.2.2 Alcohol and drug policy

International alcohol and drug policy

Three United Nations Conventions on drugs classify narcotic drugs and psychotropic substances by virtue of their danger to health, risk of abuse and therapeutic value. These Conventions govern the international drugs control, however, their provisions are not self-executing. The signatory countries are required to transpose them into domestic law in accordance with the principles of their law, by way of national legislation (EMCDDA, 2005). The United Nations Conventions provide that the use of all illegal drugs (under control) must be limited to medical and scientific purposes (United Nations, 1977). Any use other than as provided by the Conventions, and in particular recreational use, may therefore be deemed a violation of international law (De Ruyver, Vermeulen, Vander Beken, Vander Laenen, & Geenens, 2002; Vander Laenen, 2007). However, the conventions don’t specify simple use and possession for personal use can be interpreted differently. A lot of debate has been on the question if possession of illegal drugs should be deemed a criminal offence or not. Concluded from interviews with experts the EMCDDA suggests that countries are legitimate to both criminalize illegal drug use offences or choose other kinds of sanctions of non-criminal nature, as best measures to tackle the illegal use of drugs and its related problems (EMCDDA, 2005).

In March 2001, the Commission on Narcotic Drugs adopted Resolution 44/5 on the recreational and leisure use of illegal drugs among young people. One of the points in this resolution is that it ‘also encourages states to develop information systems and prevention programs aimed at raising public awareness of the risks associated with the new trends in illegal drug use among young people, in particular in recreational areas’. Within the European Union, a resolution was adopted in 2002 by the Council and the representatives of the Member States. Addressing the prevention of recreational use of illegal drugs, this instrument gives clear advice on the political priority of this topic, even if it does not create any obligations on national authorities in terms of competence (EMCDDA, 2006).

Confirming the EU’s integrated, multidisciplinary and balanced approach to illegal drugs combining demand and supply reduction, the EU Drugs Strategy 2005-2012 focuses on these two policy fields as well as on two cross-cutting themes: ‘International
cooperation’ and ‘Research, information and evaluation’. This drug strategy is the basis to develop European action plans on illegal drugs (Council of the European Union, 2004). The first action plan 2005-2008 is already completed and the evaluation concluded that the objectives of this plan have been partly achieved. One of the actions in this plan referred to drug use within recreational settings. The Member States were stimulated to develop and improve prevention programs for selected target groups and also specific settings, such as recreational settings. Guided by the lessons of this evaluation a second action plan was developed. The present plan identifies following priorities: reducing the demand for drugs; mobilizing European citizens; reducing supply; improving international cooperation; and improving understanding of the illegal drugs phenomenon. The implementation of these actions is often the responsibility of the Member States (Council of the European Union, 2008).

The Early Warning System (EWS) is an international mechanism to respond quickly regarding the presence of new (party) drugs. When a new psychoactive substance is first detected, detailed information on the manufacture, traffic and use is sent by the EU Member States to the EMCDDA (and Europol) via the Reitox national focal points (EMCDDA, 2012). In Belgium this dissemination is further elaborated by the regional focal points. For the Flemish government this is the VAD. Depending on the nature of the information, this data is further disseminated to the party people. A study on the dissemination of this information by the government has resulted in the suggestion that the government should communicate more target specifically by making a distinction on the one hand between journalists and the general public and on the other hand justice, police and health care (Gelders et al., 2010).

In opposition of the Belgian policy on drug use, alcohol is not integrated in the above mentioned legislation and is approached separately. In 2010 the WHO Member States reached a consensus on the Global Strategy to reduce the harmful use of alcohol (WHO, 2010) and in 2011 this strategy was translated into a European action plan to reduce the harmful use of alcohol adopted by 53 countries in Europe. This action plan has five objectives: raise awareness of the magnitude and nature of the health, social and economic burdens due to alcohol; strengthen and disseminate the knowledge base; enhance capacity to manage and treat alcohol-related disorders; increased mobilization of resources for concerted action and improve surveillance and advocacy (Regional Office for Europe of the WHO, 2011). This Action plan promotes a range of proven effective measures for reducing alcohol-related harm. These include taxation on alcohol to reduce harmful drinking; reducing availability through allowing fewer outlets to sell alcohol, raising age limits for those buying and using effective drink-driving measures (cf. environmental strategies). However, since the start of reporting policies it can be concluded that too few countries use effective policy options and so there is a persistent need for continued progress in the prevention of the harm done by alcohol consumption (WHO, 2011).
Belgian alcohol and drug policy

In Belgium drug use is approached integrally and integrated. Not only several policy levels are included (federal state, region governments), but also different domains (prevention, treatment and law enforcement) (Vandam, Colman, Vander Laenen, & De Ruyver, 2010) and illegal and legal (alcohol, medication, tobacco) substances. For a long time the law of the 24th of February 1921 on traffic in poisonous, soporific, disinfectant or antiseptic substances (Belgian State, 1921) - or in short the drug law - regulated the illegal drug phenomenon in Belgium (Vander Laenen, 2007). The attention given to repression and punishment in this law makes the prohibitionist vision back then very clear (De Ruyver, 2007). Fundamental changes in the law were made in 1975, in 1994 and 1998. Since the beginning of the nineties, drug use became more visible in certain youth cultures. Politics and media reacted firmly and drugs awareness came high on the political agenda from a variety of perspectives: health perspective, safety and crime prevention, repression, and welfare. The Belgian political structures required an inter-ministerial conference (around 15 different cabinets) in order to co-ordinate the different departments involved in the drug issue (set up in 1992) (Leurquin et al., 2000). This resulted in a new drug policy. With the federal drug policy of 2001 (Federal government, 2001) and the adopted law of 2003 (Belgian State, 2003) a policy based on normalization was introduced. The main point of this policy is that substance use is part of this society and should be dealt with. The Belgian policy rests on five pillars: (1) prevention for non-users and non-problem users, (2) treatment, harm reduction and reintegration of problem users, (3) repression for drug dealers and producers, (4) the development of epidemiological and evaluative instruments and (5) the cooperation between different levels of policy (De Ruyver, 2007). This policy is supported by the Joint Declaration of the Inter-ministerial Conference in Drugs 2010 to integrate the concrete policy measures taken by the different ministries (Permanente Coördinatie Algemene Cel Drugsbeleid, 2010).

So more attention was given to treatment of drug users and the term ‘harm reduction’ was introduced in the Belgian legislation. It also provides the appointment of ‘justice case managers’ at each court with a view to rationalizing the relations between the justice and health systems. These treatment coordinators are judicial assistants whose duties include dealing with drugs problems. Case managers inform prosecutors and the police about the various forms of assistance available to users and advise on the appropriateness of measures to encourage users to accept treatment (EMCDDA, 2005). In general, the main priorities of the Federal Government are the reduction of the number of drug users, the physical and mental effects related to drug use, and the consequences of the drug phenomena on society (Lamkaddem & Roelands, 2009). To achieve these goals priority should be given to prevention, followed by treatment and then repression (as ultimate measure). This was in line with the above mentioned UN Conventions as evaluated by the International Narcotics Control Board (INCB) (EMCDDA, 2005). However, from a recent study on public expenditures is
can be concluded that this priority is not reflected in the financial sources. Although introduced in the federal policy in 2001, harm reduction only accounts for 0.24% of the government expenditure on drug policy. Prevention accounts for 1.36% (Vander Laenen, 2012a). It seems that the Belgian drug policy in practice fails to align program resources with its announced priorities, strategic goals and objectives (Vander Laenen, 2012b). Although prevention has the priority, it is clear from these figures that there is still a long way to go. More specifically, in nightlife, repression was much more focused on. In the beginning of 2000 many razzia’s were conducted in nightclubs. This repression was criticized by the party people and club owners, and even by some health and social workers. Reality learns when drug use is being tackled by repression, drugs use is not disappearing, but is moved to other places. E.g. organizations who organize a strict door policy at their event, should be aware that some young people will take their drugs while waiting in line or in the car. Still some razzia’s take place, but there is more focus on new prevention initiatives. Peer support organizations inform party people about their possible illegal drug use and try to minimize the risks which go together with using alcohol and/or illegal drugs.

Prevention is the responsibility of the community level, in this case the Flemish community. In the follow up of the Health Conference 2006 on Tobacco, Alcohol and Drugs (TAD), a Flemish working group prepared different working papers that resulted in a Flemish Action Plan on TAD 2009-2015, which was accepted by the Flemish Government in 2009. The plan foresees the essential components of an effective Flemish policy on prevention. It focuses on seven axes: Working framework for the different actors in prevention; to increase the capacity of field workers; investment in registration, monitoring and evaluation; to improve the impact of existing prevention interventions; to integrate methods for prevention of tobacco, alcohol and illegal drugs (integral approach); to implement programs to quit smoking and early intervention programs for alcohol and illegal drugs; and special attention to the needs of specific groups: people in poverty, ethnic minority groups and gender differences. The Flemish government amended a prevention decree of 2003 and changed the institutional framework for coordinating partner organization of the government in the field of prevention (health promotion and disease prevention). This new procedure will start from 2016 onwards (Lamkaddem & Roelands, 2010).

Substance focused policy
Alcohol is not always seen as a drug, but in the nightlife scene it is definitely the star of the night. There are a lot of laws which regulate the production, serving, drinking and driving under influence. But we will focus only on the current legislation aimed at young people. On the 31st December 2009 an adapted legislation (original law of 1977) on selling and serving alcohol to minors was published. The current law includes that it is forbidden to sell, serve or offer alcohol to people less than 16 years old. Furthermore, it is forbidden to sell, serve or offer liquors to minors (-18 years). Whenever selling alcohol
and/or liquors, age identification may be asked (VAD, 2009). Advertisement cannot be aimed at minors and should not show minors (Arnoldus Belgische Brouwers, 2005). Furthermore, it is forbidden to drive a vehicle when a person’s alcohol concentration is above 0.5%.

In the federal drug law of 2003 a distinction was made between cannabis and other illegal drugs (Gelders & Vander Laenen, 2007; Scientific Institute of Public Health, 2001). But in the new text on the part on cannabis, the concepts of “public nuisance” and “problem use” were considered insufficiently defined and it also lacked a clear definition of ‘an amount for personal use’. Later in October 2004, the Court of Arbitration cancelled the concerned article. At the beginning of 2005 a transitional common circular about these concepts was issued (Gelders & Vander Laenen, 2007). The current law makes a distinction between cannabis and other illegal drugs only for adults (+18 year). For minors it remains forbidden. For adults, limited possession of cannabis for personal use (maximum of 3 grams cannabis, or one plant) will no longer be prosecuted, except in a disturbance of the public order which is defined in the directive as possession of cannabis in a penitentiary facility, a facility for youth protection, an educational institute or its direct vicinity (e.g. a bus stop near a school) and ostentatious possession in a public area or place accessible to the public (e.g. a hospital) (Scientific Institute of Public Health, 2001; Sleiman, 2005). The law confirms that the possession and cultivation of cannabis remain offences, and provides increased penalties for illicit production or trafficking. The law is based on the principle of deterrence from all drug use, including recreational use by adults. It is expressly stated that use by adults in the presence of minors will be treated more severely, with custodial penalties (EMCDDA, 2005).

Regarding the limited possession of other illegal drugs for personal use, the public prosecutor can decide to prosecute or offer other modalities for settling the drug offence (Scientific Institute of Public Health, 2001).

1.2.3 Prevention and harm reduction

From previous chapters it will already be clear that the focus of this dissertation will not be on the prevention of criminal behaviour of the young people, but on the promotion of their individual physical and mental well-being and health. To obtain this goal multiple models for interventions will be necessary. From an orthopedagogical perspective it is important to integrate different kinds of interventions to support the person and his/her context. This integration of (opposite) elements will result in evolution and improvement (Broekaert, et al., 2004). Therefore, we look at different models of prevention which can be used for health and social workers in the field. Health and social workers is a global term used for prevention workers, public health workers, early intervention counsellors, members of peer support organizations and educational workers.
Universal, selective and indicated prevention

In the prevention sector the model of primary, secondary and tertiary prevention is well known (Goris, Bursens, Melis, & Vettenburg, 2008), but more recently this model has been replaced by another important model of Mrazek & Haggerty (1994) on mental disorders (cf. Figure 2). This model is often used in the prevention of legal and illegal drugs and is put forward by the Institute of Medicine in the United States (Commonwealth Department of Health and Aged Care, 2000). It describes three target groups in prevention. Universal preventive interventions are targeted to the general public or a whole population group that has not been identified on the basis of individual risk. The intervention is desirable for everyone. A very famous universal campaign in Belgium is the Bob-campaign. It targets all drivers to stimulate them not to drink and drive. Selective preventive interventions are targeted to individuals or a subgroup of the population whose risk of developing mental disorders is significantly higher than average (e.g. focusing on children of parents with an alcohol problem). The risk may be imminent or it may be a lifetime risk. Indicated preventive interventions are targeted to high risk individuals who are identified as having minimal but detectable signs or symptoms foreshadowing mental disorder but who do not meet DSM criteria levels at the current time (e.g. obliged course for drivers caught under influence of alcohol). Indicated prevention addresses intrapersonal factors (Burkhart, Gyarmathy, & Bo, 2011).

Translated to the young people in nightlife, this means that prevention targeting this selection of the population can be categorized under selective prevention. Furthermore, interventions that target those who are already using drugs frequently and are identified as high risk groups within the nightlife scene (e.g. cocaine users in the cocaine campaign of Partywise - a prevention concept targeting party people) can be categorized as indicated prevention. Selective and indicative prevention will be more in the centre of the orthopedagogics, because of its connection with (possible) problematic living situations.

The model of Mrazek & Haggerty is not limited to prevention. The spectrum also comprises treatment and continuing care. It is recognized that efforts across the entire spectrum are required to maximize mental health outcome (Commonwealth Department of Health and Aged Care, 2000). When young people in the nightlife scene are facing problems, low threshold treatment centres should be available for individual or group support. We will not go further into detail on treatment and after care, because we are focusing on prevention and early intervention in this dissertation. But we should not neglect this continuum and stimulate referrals to low threshold centres.

An adapted version of the model of Mrazek & Haggerty was made to integrate early intervention. “Early interventions refers to interventions targeting people displaying
the early signs and symptoms of a mental health problems or mental disorder and people developing or experiencing a first episode of mental disorder” (Commonwealth Department of Health and Aged Care, 2000). Early intervention starts from indicated prevention and ends with early treatment. Early intervention is situated on the blurred border between prevention and treatment (Commonwealth Department of Health and Aged Care, 2000). It cannot be otherwise than blurred because it is not always easy to define whether someone is struggling with risky and problem use or whether it is already a clinical disorder (Van der Stel, 2004). Early interventions shall focus more on individual needs. In the context of early intervention the helpline in Flanders (DrugLijn) has developed several self tests which can be promoted in the nightlife scene. People fill in this self test individually and this results in tailor-made advice and referral.

Figure 1: Model on mental disorders

Source: (Mrazek & Haggerty, 1994)

Harm reduction
In contrast to universal prevention efforts, selective and indicated prevention strategies are more often consistent with harm reduction (Neighbors, Larimer, Lostutter, & Woods, 2006). “Harm Reduction” refers to policies, programs and practices that aim primarily to reduce the adverse health, social and economic consequences of the use of legal and illegal psychoactive drugs without necessarily reducing drug consumption. Harm reduction benefits people who use drugs, their families and the community (IHRC, 2010). A core principle of harm reduction is the development of pragmatic responses to dealing with drug use through a hierarchy of intervention goals that place primary emphasis on reducing the health-related harms of continued drug use (Rhodes & Hedrich, 2010). But harm reduction complements approaches that seek to prevent or reduce the overall level of drug consumption. It is based on the recognition that many people throughout the world continue to use drugs despite even the strongest efforts to prevent the initiation or continued use of drugs. Harm reduction accepts that many people who use drugs are unable or unwilling to stop using drugs at any given time (IHRC, 2010). To prevent recreational users slip into more problem use or use that will have problematic consequences, harm reduction initiatives are important (Parker, 2005). But as Erickson & Hathaway conclude most harm reduction interventions
place emphasis on the most serious harms, it neglects at the same time the group of controlled, recreational drug users (Erickson & Hathaway, 2010).

**Emancipatory prevention**

Next to the different groups targeted by prevention and whether one chooses to develop a universal, selective or indicated intervention or harm reduction, it is necessary to keep in mind important values to be included in the intervention. Vettenburg et al. (2003) define this as the need for ‘emancipatory prevention’. “Emancipatory prevention includes determined and systematic initiatives which attempt to, in function of the promotion or preservation of the well-being and the health of the target group children and young people, anticipate increasingly earlier on risk factors, be maximal offensive, develop integrated measures, work participative and have a democratic character” (Goris et al., 2003). To obtain this it is not enough to fight problems in well-being, but it’s necessary to promote or preserve (Vettenburg, et al., 2003) in this context qualitative going out. Offensive measurements can include introducing new action possibilities or sensitize alternative action possibilities (Goris, et al., 2003). One example in this context is the campaign ‘Partyfriends’ (VAD). It focuses on all young people who go out and not only on the drug using cohort in this scene. It confirms that nightlife is important for young people to share with friends and stimulates alternatives to obtain a qualitative going out. Furthermore, offensive prevention starts from the idea that young people can work on their own self fulfilment (Vettenburg & Vandewiele, 2001). So prevention is about emancipation, which means that the possibilities for an optimal development of the individual should be pursued (Walgrave, 1996). Emancipation is one of important concepts within orthopedagogics (Broekaert, et al., 1997). Prevention should keep in mind that most drug users (not abusers) can be positioned as acceptable economic citizens, who balance between freedom and ‘appropriate’ choice, and their obligations as active citizens (Riley, et al., 2010). One interpretation of this discourse limits the state interventions to providing information that enables individuals manage risk appropriately and not interfering in the free choice whether to take drugs or not.

**Prevention at different levels**

According to Lenton prevention activities can operate at different community levels: from the international level at the most macro level down to the interaction of a small group of users using a drug at the most micro level (Lenton, 2005). For example, prevention in nightlife can include information on taking ecstasy while dancing with the risk of overheating and can also include a tip for club owners to introduce a chill out in their club or suggestions for the local authorities.

Furthermore, there is a distinction between individual and general prevention (Burssens, Goris, Melis, & Vettenburg, 2004). While in the treatment field targeting subgroups is less common in contrast with individual treatment, the prevention field in nightlife in Belgium has a history of more general prevention. Young people who go out
and use drugs are not in contact with health and social workers, because most of them do not experience drug related harm or other problems (yet). However, it is important to intervene as early as possible. Therefore, general prevention in this scene has been developed because it allows to focus on more early risk factors (Goris, et al., 2008). An example in this context is the general Partywise campaign which focuses on a part of the population, namely young people who go out. Burssens and his colleagues (Burssens, et al., 2004) promote building bridges between individual and general prevention to change risk factors in a structural manner and not solely for individuals.

Another distinction can be made between prevention focused on persons, the environment or the substance (cf. drug, set, and setting from Zinberg). Prevention initiatives focusing on the person include sensitizing, informing and training of skills to obtain changes in personal behaviour (De Donder, et al., 2002; Vettenburg, et al., 2003). Intervention can also imply changes in the context of the person (community, family, friends) and is referred to as environmental prevention (Vettenburg, et al., 2003). However, environmental strategy is not a term with fixed meaning. Interventions included in this category may differ in prohibition-oriented and in harm-reduction-oriented discussions. In legal substances literature, taxations and conditions of sale (e.g. closing times, advertisements) seem effective for legal substances. However, these interventions might be less effective in regulating illegal drugs (Room, 2006). Interventions focused on the substances itself include two models which are in opposition to each other: Prohibition versus acceptance of illegal drug use in society. Initiatives taken in the prohibition model are inspired by repression, while the acceptance of drug use as part of the society implies more information for (possible) users (De Donder, et al., 2002).

From a holistic point of view, interventions targeting the nightlife scene will integrate these different levels. It depends on the person and their need for support which intervention will be most effective. The goals of prevention and harm reduction might sometimes seem oppositional (no use, controlled use), but these contrasts are necessary for the integration because they force us to search for improvement (Broekaert, 2009). Thus from a pedagogic viewpoint, every method is good which activates to orthofunctional manifestations and leads to the target set (Broekaert, 2009). This means that one prevention concept can include several interventions on different levels. Moreover, to obtain the goals set, it will be necessary to alternately let different kinds of interventions go together. If not, some individuals or groups of individuals will not be reached.

1.2.4 Orthopedagogical response

Orthopedagogics is a part discipline of pedagogics, with a pedagogics situation as the point of departure. The focus in this science is the everyday reality of educating. Van
Gennep describes commonly orthopedagogy as the pedagogy of persons obstructed in their development (Miedema, 1997). So knowledge in developmental psychology is needed. What can you expect from young people growing up from childhood to ‘responsible’ adults? However, there is a pedagogic field of tension between what a person does and what he ought to do. This dissertation started with placing recreational drug use within the development from children to adulthood which is an important pedagogical period in every child’s life. From this point of view drug use can be argued to be ‘normal’ – in opposition of the legal framework - in a young person’s process to adulthood (cf. controlled use). However, the recreational use of drugs can block this process to adulthood and can result in a possible problematic living situation. This is the domain of the orthopedagogue: he has a pedagogic purpose to provide educative assistance in (possible) problematic living situations. In the search for the best answer in a given situation, he tries to find the most suitable intervention and do the best for mankind. Whatever ‘the best’ may be, it has to be the exponent of a meaningful, significant flexible process of a methodical and systematic search or action for an expected valuable solution, free of dogmatic premises (Broekaert, Autrique, Vanderplasschen, & Colpaert, 2010). In this process it is important to include the perspective of the persons concerned. Doing the best for mankind therefore involves from participation of the young people themselves (cf. interviews).

Interventions are already necessary before users develop the type of difficulties that will require formal treatment. Preventing escalation of use, preventing the move to more dangerous substances, encouraging the adoption of lifestyles in which drugs is not central, ensuring young people have an adequate knowledge base to make rational decisions about consumption, preventing further harm, are all worthy goals of activities in this area.

A systematic, planned and methodological problem approach
To intervene in daily life for obtaining a desired situation we can use the regulative cycle of Van Strien: defining the problem, diagnose, plan, intervention and evaluation (Broekaert, et al., 1997). So, the first step is to define the problem. The central aim of this study is formulated as follows: to explore the drug use and characteristics of people who go out in Flanders. The high frequency of use in the nightlife setting makes us wonder whether these party people face problems or how these party people keep away from problems. How can we give an answer to this recreational use of drugs in the nightlife? By answering these questions we hope to increase the quality of life for party people in the future.

Before intervening in a situation it is necessary to analyze the situation and have insights why this situation is possibly evolving in a problematic living situation. Before change can be obtained, we have to identify the changeable, influencable and controllable factors (cf. surveys and interviews in this study with results placed in a theoretical
framework). However, the knowledge derived from these studies should have to pursue the goal of individual and collective emancipation. An action science as pedagogical sciences integrates these data to evolve to pedagogical action (Broekaert, et al., 1997). So next, it is desirable from an orthopedagogical approach to plan and implement an intervention. To integrate evidence he will look at efficient components or interventions already implemented (cf. literature review). However, next to evidence, humanism and emancipation should be integrated too (Broekaert, Autrique, et al., 2010). Therefore, he will integrate the user's perspective (cf. interviews) and switch paradigms to look for the 'best' solution (cf. different approaches in prevention and harm reduction). Whether “improvement through educational practice” (Broekaert, et al., 2004) is achieved by the combination of interventions should be part of the evaluation phase. Lessons learned from the evaluation result in adaptations in the interventions. The solution found will always be questioned again. This dynamic is essential for orthopedagogical action (Broekaert, 2009). With this regulative cycle a bridge can be made between theory and practice (Broekaert, et al., 1997).

Towards the integration of research paradigms and methods

To achieve the goals set Broekaert and colleagues (2010) propose to integrate different paradigms of care (empirical-analytical, phenomenological-existentialist and social critical paradigm), which can be translated in the integration of research methodologies and interventions. The interconnection between the three paradigms is referred to as the human prerogative to achieve the best solution for substance users.

To prevent young users from (escalation of) problems and a problematic living situation, and to improve the quality of life of young people who use drugs, meaningful action is needed. Meaningful action in specific situations can only be obtained by examining the different paradigms and methods and making a free and responsible decision. In searching for the best answer in a given situation, the most suitable intervention is chosen. This is referred to as ‘the human prerogative of care’ (Broekaert, Autrique, et al., 2010). To obtain this a combination of evidence of experimental research, the self-actualizing existence of people and the search for social emancipation (Broekaert, Autrique, et al., 2010) is necessary. Thus, the starting point is that there will be not one answer that fits all and that different types of interventions should be looked into. Alternately letting different paradigms go together stimulates a dialectic process of improvement, in this case for the young people who go out.

In the empirical-analytical paradigm causal relations and scientific criteria of studies are very valuable. Typical in this research is the importance of statistical evidence and statistical power. In this paradigm the first two research questions can be situated. By surveying young people in nightlife we try to gather evidence for statistical relations on variables influencing drug use. Furthermore, the evidence-based approach is also underpinned by this paradigm (Broekaert, Autrique, et al., 2010). Evidence-based
practice is currently considered to be an important prerequisite to realizing quality of care and has also found its way into substance abuse treatment (Broekaert, Autrique, et al., 2010) and prevention (De Bock & Lambrechts, 2007). We will make a literature review on prevention and harm reduction initiatives in nightlife to collect more information on effective components in interventions in nightlife.

However, human motives, social interactions and beliefs are far too complex to be reduced to statistical analyses. Understanding the story of man can be underpinned by the second paradigm, namely the phenomenological-existentialist (Broekaert, et al., 2004). Furthermore, the evidence-based paradigm may underestimate the essence of interventions as meaningful action, although evidence can be an integral part of meaningful action (Broekaert, Autrique, et al., 2010). Therefore, a qualitative study by in-depth interviews with drug users themselves will be performed. To integrate the phenomenological point of view we will look at the role of drug use in a group of young people and at the preventive measures they take in their night out.

From a third perspective, the critical post-structural paradigm, quality of life and emancipation are central concepts. Also a critical position to society as in the harm reduction approach is closely linked to this paradigm. In this paradigm narratives are the most important sources of information and therefore, experienced drug users were interviewed on their views on prevention and harm reduction. Looking at the perspective of the user, it makes clear that human beings are interconnected and integral part of the ‘best’ solution (Broekaert, Autrique, et al., 2010). Furthermore, in the context of this paradigm the literature review will not only look at interventions focused on preventing use, but also on the reduction of harm. Emancipation is also of importance and as Goris et al. (2008) conclude the emancipation of citizens is the most important ingredient of prevention (cf. desired prevention). Health and social workers should not only consider the effectivity and efficiency of interventions, but also the emancipatorical power (Goris, et al., 2008). This might mean that they will not solely look at person focused interventions but also environmental changes or substance related prevention. These integration and alternately going together of different paradigms and perspectives should lead to an improvement which in essence is the orthopedagogical goal (Broekaert, 2009).

1.3 The aims and specific research questions

1.3.1 Aims of this study

Going out has become an important part of young people’s social lives. Every weekend, thousands of young people visit clubs and parties. The consumption of legal and illegal drugs is an important phenomenon that has been connected with nightlife and has
received widespread attention (e.g., (Calafat, et al., 1999; EMCDDA, 2006; Goldsamt, O’Brien, Clatts, & McGuire, 2005; Soellner, 2005). The nightlife is often the first setting for exposure to (new) substances or (new) patterns of use due to globalization, among other reasons. Although recreational illegal drug use among the general population is relatively low, the prevalence of use among people in nightlife settings is much higher (EMCDDA, 2006).

Firstly, the central aim of this dissertation is theoretically oriented (Maso & Smaling, 1998): explore the drug use, characteristics of people who go out in Flanders and whether they face problems. Secondly, the central aim is also practically oriented (Maso & Smaling, 1998) which is a necessity in an action science such as pedagogical sciences: how do these party people keep out of problems and how can health and social workers give support for them to stay out of problems? Overall, we hope that by challenging stereotypes, misconceptions and misunderstandings on drug use and nightlife, to minimize barriers to effective prevention activities.

The central aim is translated in three specific aims and five studies/chapters. As Zinberg (1984) outlined, the effects of drugs use are related to the interaction of drugs, set and setting. Therefore, we looked at these three factors (see next section). The first three studies were based on a survey held in the nightlife scene between 2003 and 2009. In the fourth study qualitative individual interviews were performed in 2010 and 2011 with visitors from goa-parties. Finally in a fifth study, a literature review brings the prevention initiatives with a media component in this setting together.

1.3.2 Specific research questions

1. Which variables influence the frequency of use of alcohol and illegal drugs?

Epidemiological studies on recreational drug use in nightlife discuss gender differences, but seem to contradict each other. Furthermore, the high prevalence of substance use in dance music settings may be because clubbers tend to be young and single. Increased age is also associated with increased frequency of drug use. Information on these variables can be relevant to introduce prevention and harm reduction interventions. The results of this study are discussed in chapter 2.

Research over the last decade has focused almost exclusively on the association between electronic music and ecstasy or other stimulant drug use in clubs. Less attention has been given to other nightlife venues and music preferences, such as rock music or southern/funky music. This study aims to examine a broader spectrum of nightlife, beyond dance music. The question of how these nightlife variables influence the use of popular drugs like alcohol, ecstasy, cannabis, cocaine and amphetamines is addressed. The results of this study are discussed in chapter 3.
2. **Which evolutions in drug use can be seen in the nightlife scene and what is the role of drug use?**

Evolutions in drugs have always been seen and nowadays, trends spread even more quickly due to new technologies (e.g. the internet) and other social evolutions (e.g. party tourism). A wide range of longitudinal studies on trends in drug use have been published. However, most of these studies focused on the general population and might underestimate the prevalence of drug use because of the under-sampling of hidden populations. In order to be able to respond to changes in drug patterns in a timely way, research should focus on innovators and early adopters (Rogers, 2003), who can be found in more specific settings, such as the nightlife scene. The results of this study are described in chapter 4.

One group of party visitors appeared to be more drug experienced than others. In this fourth study (chapter 5) we looked for insights in the motivations of goa-visitors to use drugs even more than other target groups of this study (Zinberg's set and setting).

3. **Which prevention measures are taken and which interventions are effective in preventing or reducing harm from drug use?**

Some underground or alternative music styles, like goa trance or psytrance present an even higher frequency of drug use than in the electronic dance music scene. The high frequency of use makes us wonder whether these party people face problems or how these party people keep out of problems. More information on the preventive measures they take may help to identify potential pathways for targeted interventions to reduce drug-related harm among at-risk groups. To have more insights in this sub group of the electronic dance music scene, more in-depth information was needed and interviews were conducted with goa party visitors. The results of this qualitative study are described in chapter 5.

Recreational settings provide an opportunity to reduce and minimize the harm from the use of illegal drugs and excessive alcohol consumption (Akbar et al., 2011). During the last decade, numerous types of interventions have been implemented; however, assessment of their outcomes is less common (Calafat & Pompidou Group Prevention Platform, 2010). Furthermore, few interventions described electronic media use as a component in their intervention. Therefore, we will focus on those prevention activities in nightlife that include a component of media. The overall objective of this study is to describe the effects and practicability of media components in alcohol and drug interventions in the nightlife environment. Identifying the key components of interventions can stimulate health and social workers to include media as a tool to target their audience. The results of this literature study are described in chapter 6.
References


Wet van 24 februari 1921 betreffende het verhandelen van gifstoffen, slaapmiddelen, verdovende middelen, ontsmettingsmiddelen en antiseptica, B.S., 6 maart 1921. (1921).


Commonwealth Department of Health and Aged Care (2000). *Promotion, Prevention and Early Intervention for Mental Health- A Monograph, Mental Health and Special Programs Branch*. Canberra: Commonwealth Department of Health and Aged Care.


OFDT (2000). Tendances nr. 7: Recent trends relating to psychoactive substances use and synthetic substances components: OFDT.


WHO (2010). Global Strategy to reduce the harmful use of alcohol. Italy: WHO.


Chapter 2

The influence of age and gender on party drug use among young adults attending dance events, clubs, and rock festivals¹

Abstract

A random sample of visitors of dance events, clubs and rock festivals in Belgium (Flanders) was selected to complete an anonymous survey regarding their use of “party” drugs (alcohol, cannabis, ecstasy, cocaine, amphetamines) and patterns of going out. The results of 670 respondents recruited in 2005 are reported and compared with 2003 for gender and age. Drug use in these nightlife settings is higher than in the general population. In younger age groups the illegal drug use increases, but it decreases in older age groups. This might be linked to more responsibilities. Men still use drugs more often than women, but the gender differences seem to decrease. The changing role of women in society could be an explanation for this evolution. Limitations and implications of this research are discussed.

2.1 Introduction

Going out has become an important part of young people’s social lives. Every weekend, thousands of young people visit clubs and parties. The consumption of licit and illicit substances is an important phenomenon that has been connected with nightlife and has received widespread attention (Calafat et al., 1999; EMCDDA, 2005; Goldsamt, O’Brien, Clatts, & McGuire, 2005; Soellner, 2005). The nightlife is often the first setting for exposure to (new) substances or (new) patterns of use due to globalization, among other reasons. The terms “club” or “dance” drugs emerged in close relation with the apparent ubiquity of illicit substances (mainly ecstasy) that are used at rave and contemporary club settings (Sanders, 2006). Alternatively, the name “party drugs” was introduced, since illegal substances are not exclusively used in clubs or dance-related events. Typical party drugs include not only illegal substances like ecstasy and cocaine, but also legal substances such as alcohol.

Although recreational substance use among the general population is relatively low, the prevalence of use among people in nightlife settings is much higher (EMCDDA, 2006). Various studies on nightlife substance use concluded that clubbers are extremely drug-experienced. Alcohol is clearly the star of the night, and cannabis is the most popular illegal substance. The use of cocaine and ecstasy is also closely linked to the party scene, given the stimulant effects of these drugs. Moreover, the consumption of more than one substance during a single night is widespread (Calafat, et al., 1999; Measham, Aldridge, & Parker, 2001; Riley & Hayward, 2004).

Various studies in the club scene have shown that men are more likely than women to use illicit drugs (Measham, et al., 2001; Parsons, Halkitis, & Bimbi, 2006), although these gender differences may vary across countries and regions. For example, southern European countries tend to report higher male-to-female ratios than countries in the north of Europe (EMCDDA, 2006).
Gender and Age: Party Drugs

Gender differences in alcohol consumption can be found everywhere to such an extent that they can be considered one of the few universal gender differences in human social behaviour (Holmila & Raitasalo, 2005). In many cultures, drinking alcohol is one of the more powerful symbols of gender roles and identities. The same is true for (illicit) drug use and other risk-taking behaviour. Societies’ normative structures maintain the traditional differences in many ways (Isralowitz & Rawson, 2006).

Epidemiological studies show a different type of use between men and women: fewer women use drugs, and they generally do so less frequently than men (Calafat, et al., 1999; Measham, et al., 2001). Moreover, patterns and contexts of party drug use may vary between men and women, irrespective of the prevalence rates between both sexes (Parsons, et al., 2006). According to Carman & Holmgren (1986 in (Baker & Yardley, 2002), adolescent males have greater social freedom to participate in risk-bearing activities than females. On the other hand, recent publications seem to question the extent of gender differences (EMCDDA, 2006; Isralowitz & Rawson, 2006). Some studies indicate that men’s and women’s drug use patterns are converging (Holmila & Raitasalo, 2005; Parker, Aldridge, & Measham, 1998; Zilberman, Tavares, & El-Guebaly, 2003), while Akram & Galt (1999) didn’t find any gender differences in their research in clubs.

The high prevalence of substance use in dance music settings may be because clubbers tend to be young and single. Recent research has shown that the use of ecstasy has been most closely linked to dance parties attracting younger age groups, whereas cocaine has been linked to clubs attracting older age groups (EMCDDA, 2006). In the study of Measham et al. (2001), the age distribution concerning drug use has shown a clear pattern of increasing frequency of drug use in the older groups in comparison with the younger groups. Many young adults are initiating the use of party drugs in their early twenties, and this often occurs in the context of a dance club. The initiation of substance use is progressively taking place at younger ages, with the trend being more dramatic among women as compared to men (EMCDDA, 2006; Riley, James, Gregory, Dingle, & Cadger, 2001; Zilberman, et al., 2003). Earlier surveys have shown that if there is a descent in the age at which substance use starts, it generally implies a greater use of other substances and a higher level of addiction (Calafat, et al., 1999). Some authors pinpoint the cause as post modernity and a growing disposable income to spend on going out and purchasing substances (Aubrey, Chatterton, & Hollands, 2001; Williams & Parker, 2001).

Given the inconsistent research findings on gender differences and the frequent initiation of drug use in dance clubs and other nightlife venues (Forsyth, Barnard, & McKeeganey, 1997; Measham, et al., 2001), our objective was to study the role of gender and age on the prevalence of substance use in various nightlife settings (clubs, dance events, and rock festivals). First, we assess whether women use substances to the same
extent and in the same way as men, in order to find out whether the modified role of
women in society is reflected in females’ drug use in nightlife. Second, we investigate
the association between age and (frequency of) substance use and verify which age
group is the most drug-experienced group. Information regarding the ways in which
gender and age affect drug use is important for targeted prevention interventions to
be successful (Parsons, et al., 2006).

2.2 Method

Sample

Party people are not easily accessible for research. Studies on drug use or nightlife
have mainly been performed in school settings (cf. HBSC-studies) (Calafat, et al., 1999;
Forsyth, et al., 1997). Few researchers have used the nightlife scene to collect data on
young persons’ substance use and on this specific subculture (Measham, et al., 2001;
Parsons, et al., 2006; Riley, et al., 2001; Ter Bogt & Engels, 2005). This survey was
administered in the Belgian nightlife scene, using a self-report questionnaire. A random
sample of party people was selected at three clubs, two dance events and two rock
festivals in Flanders. These specific events and clubs were chosen, based on their scale
in order to ensure a large enough sample size.

By attending these events and club nights, the response rate was maximized. Response rates are normally higher when you can personally motivate respondents, while researchers are also able to make observations. According to Riley and Hayward (Riley & Hayward, 2004), recruitment of study participants at diverse sites where party drugs are used, enhances the ecological validity of the findings. Since few differences could be observed between attendees of various events (with exception that the age of respondents at rock festivals was higher than those at clubs and dance events), differences between dance events, clubs and rock festivals will not be discussed in this article.

Visitors of these clubs and events were asked randomly to participate in the study. To minimize selection bias, the researchers invited every fifth visitor to complete a short questionnaire. Non-Belgian residents and persons who selected themselves for the study were not eligible for participation (n=270). Overall, the response rate was 66.2% (702 respondents; 359 persons refused to participate). Based on the researchers’ observations, many persons refused to participate because they were on their way to the bar or wanted to see a particular artist who was starting his/her act. Other persons did not want to participate because they were accompanied by a group of friends. In total, 702 persons completed the questionnaire. To test the reliability of respondents’ answers, an imaginary substance (NTSC) was added to the list of substances.
Thirty-two (4.6%) respondents reported the use of “NTSC,” and data from these subjects were therefore excluded from the analyses. Ultimately, this article reports on findings among the remaining 670 respondents.

**Procedure**

This survey was first administered in 2003 and has been repeated every two years. Because the data of the 2005 survey – that was performed between 1 July 2005 and 12 November 2005 – were available at the time of the data analysis, we will discuss these results in this article and compare these, where appropriate, with the results of the 2003 survey.

Club owners and event organizers gave their permission to recruit participants at their venues. Agreements were made concerning anonymous reporting about clubs and events. Also, the anonymity of respondents was guaranteed. To minimize interviewer bias, all researchers involved in the data collection were trained prior to the study. Two researchers approached visitors in clubs between 1 a.m. and 4 a.m. Before 1 a.m. too few visitors attended the club, while after 4 a.m. more visitors were under the influence. At rock festivals, data were collected by three researchers between 3 p.m. and 8 p.m., while at dance events this happened between 9 p.m. and 12 p.m. To guarantee anonymity, respondents were asked to complete the questionnaire on their own, even if they wanted the researchers to help them. Filling in the questionnaire took the respondents on average 15 minutes. No payment was made to the study participants.

**Instruments**

The questionnaire consists primarily of multiple-choice questions and also includes two open-ended questions. The first section of the questionnaire includes some demographic variables (age, gender, job, living situation, sexual identity) (Calafat, et al., 1999). The second focuses on patterns of going out (favourite music, setting, frequency, etc.) (Winstock, Griffiths, & Stewart, 2001). The third part assesses the (frequency of) use of substances (Tossmann, Boldt, & Tensil, 2001; Winstock, et al., 2001). Although in the international (American) literature the use of party drugs like Rohypnol® or methamphetamine is reported extensively (Maxwell, 2005; Parsons, et al., 2006), neither substance was included in the list of substances since their use appears to be rather rare in Belgium. However, respondents had the possibility to fill in the name of substances used which were not listed. Respondents could choose between seven different categories of “frequency of use”: never used this drug; ever used, but not in the last year, once a month or less; several times a month; once a week; several times a week; and daily. The fourth section is intended only for persons who used illegal substances in the last year and consists of questions on the context of substance use: when and with whom they use, and where and when they buy their
drugs (Riley, et al., 2001). The fifth part focuses on combined substance use (frequency and substances) (Riley, et al., 2001). “Combined use” is regarded as the use of more than one substance during a defined time period (night, evening, etc.). Typically, the effects of one substance are altered by the consumption of another substance (Boys et al., 2000; Laudens, 2004). Again, every respondent was asked to complete the sixth section on preventive health measures regarding substance use taken during the night (Hacourt, 2002). The last section of the questionnaire consists of open-ended questions on emerging trends in (patterns of) drug use.

Data analysis

All questionnaires were coded and analyzed with the statistical program SPSS 15.0 for Windows. T-tests (t-value) for gender differences and Pearson correlations (r-value) for age differences and their non-parametric equivalents Mann-Whitney (U-value) and Spearman correlations (rs-value) were used to analyze the influence of these two variables on frequency of use. The statistical significance level was set at 0.05, while only correlations values of 0.20 or higher were deemed relevant. Since correlations can be significant due to the large number of participants, an additional criterion was included: values should be higher than 0.20, which is defined as a weak correlation (Franzblau, 1958). In this article, we will not discuss the use of all substances; instead, we will focus on the most frequently used substances in Belgian nightlife. Therefore, analyses are limited to the following drugs: alcohol, cannabis, ecstasy, amphetamines and cocaine.

To predict the use of alcohol, cannabis, amphetamines, ecstasy and cocaine, we applied multiple regression analyses with age, gender and their interaction as predictors. Substance use is regarded as a continuous outcome variable (Baker & Yardley, 2002). The employment status of the respondents (worker or student) was not integrated in the multiple regression model because of its high correlation with age (r = 0.65, p = 0.000) in order to reduce multicollinearity (De Bourdeaudhuij, Teixeira, Cardon, & Deforche, 2005).

As a first step in the multiple regression analyses, age, gender and the interaction between age and gender were inserted as predictors for substance use. For all outcome variables, the interaction between age and gender did not lead to significant results. Consequently, in the next step we limited our predictor variables to age and gender.
Table 1: Frequency of use by gender

<table>
<thead>
<tr>
<th></th>
<th>Never used this drug</th>
<th>Have used, but not in the last year</th>
<th>Once a month or less</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Daily</th>
<th>Mann-Whitney (U)</th>
<th>Differences in mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>3.3</td>
<td>5.4</td>
<td>1.8</td>
<td>4.5</td>
<td>4.8</td>
<td>9.3</td>
<td>13.3</td>
<td>16.6</td>
<td>15.8</td>
</tr>
<tr>
<td>Women</td>
<td>3.7</td>
<td>7.7</td>
<td>3.7</td>
<td>2.9</td>
<td>16.5</td>
<td>16.9</td>
<td>23.9</td>
<td>29.5</td>
<td>21.6</td>
</tr>
<tr>
<td>Total</td>
<td>3.4</td>
<td>6.2</td>
<td>2.5</td>
<td>4</td>
<td>9</td>
<td>11.7</td>
<td>17</td>
<td>20.7</td>
<td>17.9</td>
</tr>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>27.3</td>
<td>37.7</td>
<td>18.7</td>
<td>19.6</td>
<td>9.9</td>
<td>10.4</td>
<td>5.1</td>
<td>7</td>
<td>5.1</td>
</tr>
<tr>
<td>Women</td>
<td>44</td>
<td>51.7</td>
<td>18.8</td>
<td>20.6</td>
<td>12.4</td>
<td>14.4</td>
<td>8.3</td>
<td>4.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Total</td>
<td>33.3</td>
<td>42.2</td>
<td>18.8</td>
<td>19.9</td>
<td>10.8</td>
<td>11.7</td>
<td>6.2</td>
<td>6.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Xtc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>62.1</td>
<td>70.6</td>
<td>13.1</td>
<td>12.1</td>
<td>13.9</td>
<td>10.5</td>
<td>4.8</td>
<td>3.2</td>
<td>3.5</td>
</tr>
<tr>
<td>Women</td>
<td>83.2</td>
<td>79.0</td>
<td>9.1</td>
<td>9.5</td>
<td>5.5</td>
<td>7.1</td>
<td>2.3</td>
<td>1.9</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>69.6</td>
<td>73.3</td>
<td>11.7</td>
<td>11.2</td>
<td>10.9</td>
<td>9.4</td>
<td>3.9</td>
<td>2.8</td>
<td>2.3</td>
</tr>
<tr>
<td>Amphetamines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>74.7</td>
<td>79.3</td>
<td>12.4</td>
<td>13.9</td>
<td>7.8</td>
<td>3</td>
<td>2.8</td>
<td>1.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Women</td>
<td>86.8</td>
<td>87.1</td>
<td>8.6</td>
<td>5.7</td>
<td>1.8</td>
<td>3.8</td>
<td>1.4</td>
<td>1.9</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>79.1</td>
<td>81.8</td>
<td>11</td>
<td>11.2</td>
<td>5.7</td>
<td>3.2</td>
<td>2.3</td>
<td>1.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>72.5</td>
<td>73.2</td>
<td>13.9</td>
<td>13.2</td>
<td>8.3</td>
<td>7.3</td>
<td>2.5</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td>Women</td>
<td>86.4</td>
<td>87.6</td>
<td>7.7</td>
<td>4.8</td>
<td>3.6</td>
<td>5.2</td>
<td>1.4</td>
<td>1.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>77.4</td>
<td>77.8</td>
<td>11.7</td>
<td>10.5</td>
<td>6.7</td>
<td>6.6</td>
<td>2.1</td>
<td>2.6</td>
<td>0.8</td>
</tr>
</tbody>
</table>

The table presents the frequency of use by gender for various substances over two years (2003 and 2005), with Mann-Whitney (U) test results indicating statistical differences.
2.3 Results

Participants' demographic characteristics

The selected sample of 670 visitors of club, dance events, and rock festivals consists of 449 males (67.9%) and 121 females (32.1%). The mean age of the respondents is 22 years and 8 months (M = 22.7, SD = 5.4). 19.3% of the respondents are under 18 years of age. 7% are over 30 years old. The vast majority of visitors (92.6%) call themselves heterosexual, while 4.0% are gay/lesbian and 3.4% bisexual. Nearly half of the sample (46.2%) are students (graduate and undergraduate), and 49.6% said they have a job. Only 3.5% are unemployed. The majority of the respondents (63.2%) still live at home with their parents, while 15.9% live alone, 11.3% live together with their partner, and 8.7% live with friends.

Prevalence of substance use

Alcohol is the most commonly used party drug (lifetime prevalence: 93.5%) and almost half of the respondents (44.2%) used an illegal drug during the preceding year. Cannabis (38.4%) is clearly the most popular illegal substance, followed by ecstasy (15.8%) and cocaine (12.3%). Use of amphetamines is reported to a limited extent (7% last-year use: 5% occasional and 2% regular use). Use of “new” drugs like GHB and Ketamine is rather exceptional in this sample (last-year prevalence for both substances is 1.7%) and will therefore not be analyzed in more detail.

Table 2: Drug use for 2003 and 2005 for the different age groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12–14</td>
<td>0.7</td>
<td>0.5</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
</tr>
<tr>
<td>15–16</td>
<td>9.6</td>
<td>7.4</td>
<td>2.9</td>
<td>2.4</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>17–18</td>
<td>20</td>
<td>17.7</td>
<td>8.9</td>
<td>7.5</td>
<td>0.5</td>
<td>0.8</td>
<td>1.9</td>
<td>0.9</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td>19–20</td>
<td>16.7</td>
<td>15.1</td>
<td>9.5</td>
<td>6.4</td>
<td>2.1</td>
<td>1.3</td>
<td>3.1</td>
<td>2</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>21–22</td>
<td>14.5</td>
<td>12.6</td>
<td>9.3</td>
<td>5.2</td>
<td>2.7</td>
<td>0.8</td>
<td>4</td>
<td>2.4</td>
<td>2.9</td>
<td>1.9</td>
</tr>
<tr>
<td>23–24</td>
<td>11.3</td>
<td>12.3</td>
<td>7.6</td>
<td>6.6</td>
<td>1.7</td>
<td>1.7</td>
<td>3.6</td>
<td>3.5</td>
<td>1.7</td>
<td>2.7</td>
</tr>
<tr>
<td>25–26</td>
<td>7</td>
<td>8</td>
<td>3.3</td>
<td>3.3</td>
<td>0.5</td>
<td>0.5</td>
<td>1.4</td>
<td>1.7</td>
<td>0.3</td>
<td>1.6</td>
</tr>
<tr>
<td>27–28</td>
<td>6.1</td>
<td>5</td>
<td>4.3</td>
<td>2.7</td>
<td>1</td>
<td>1.1</td>
<td>2.4</td>
<td>1.9</td>
<td>1.7</td>
<td>1.3</td>
</tr>
<tr>
<td>29–30</td>
<td>2.1</td>
<td>4.6</td>
<td>0.9</td>
<td>1.7</td>
<td>0.3</td>
<td>0.8</td>
<td>0.5</td>
<td>1.7</td>
<td>0.5</td>
<td>1.3</td>
</tr>
<tr>
<td>31–32</td>
<td>1.2</td>
<td>2.5</td>
<td>0.3</td>
<td>0.9</td>
<td>0.3</td>
<td>0.2</td>
<td>0.3</td>
<td>0.5</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>33–34</td>
<td>1</td>
<td>1.4</td>
<td>0</td>
<td>0.5</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
<td>0.3</td>
</tr>
<tr>
<td>35</td>
<td>3.5</td>
<td>2.1</td>
<td>1</td>
<td>0.5</td>
<td>0.2</td>
<td>0</td>
<td>0.9</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>
Significant gender differences are observed for the frequency of use of alcohol, cannabis, amphetamines, ecstasy and cocaine. Men use these substances more often than women (cf. table 1), but if we look at the difference between the number of men and women that used this drugs in the last year, this result is only significant for cannabis ($t = 3.828; df = 446.191; p = 0.00$) and cocaine use ($t = 2.446; df = 518.080; p = 0.015$).

The highest percentages of last-year alcohol, cannabis, and other illegal substance use are noted among respondents between 17 and 26 years old. In older age groups these percentages are lower (cf. table 2). It seems that there is no association between frequency of alcohol and cannabis use and age, while such an association can be observed for all other substances. The older the respondents, the more frequent cocaine (rs = 0.278; p = 0.00), ecstasy, (rs = 0.279; p = 0.00) and amphetamines (rs = 0.241; p = 0.00) are used.

To further investigate this relation, a linear regression analysis was conducted on the frequency of alcohol, cannabis, ecstasy, amphetamines and cocaine use, including age and gender as predictors. All models except for alcohol yielded significant. In the model with cannabis use as dependent variable (adjusted $R^2 = 0.008; F = 3.691, p = 0.025$), only gender was significant ($B= 0.020, p = 0.012$). The only significant variable concerning the use of amphetamines (adjusted $R^2 = 0.013; F = 5.021, p = 0.007$) is age ($B = 0.021; p = 0.002$). Gender and age are significant in the models of ecstasy (adjusted $R^2 = 0.028; F = 10.324, p = 0.000$) and cocaine (adjusted $R^2 = 0.030; F = 10.870, p = 0.000$). Age has a significant value of 0.027 ($p = 0.001$) in the model of ecstasy and 0.029 ($p = 0.000$) in the model of cocaine. For gender, this is respectively 0.013 ($p = 0.003$) and 0.009 ($p = 0.016$).

Patterns of substance use

Analysis of the time of consumption (before, after, or while going out) shows that almost all respondents (94.5%) drink alcohol while going out, and almost half of them do so before going out (44.4%). Significantly more men than women drink alcohol before ($\chi^2 = 4.87; df = 1; p = 0.027$) and after going out ($\chi^2 = 12.59; df = 1; p = 0.00$) (cf. table 3).

It is notable that almost all respondents who used illegal drugs during the last year did so while going out and while they were in a group. Cannabis is used equally before, during, and after going out. Ecstasy is mainly used while going out and in the presence of friends. Cocaine is also used after going out. No gender differences can be observed concerning patterns (before, during, after going out, use in group) of illegal drug use (cf. table 3). Younger respondents rather tend to use ecstasy before going out ($r = -0.306; p = 0.002$) and to use amphetamines while going out ($r = -0.281; p = 0.042$). Older respondents are more likely to smoke cannabis on their own ($r = 0.206; p = 0.002$).
**Table 3:** Percentages of men and women for patterns of use, $\chi^2$ and p-value

<table>
<thead>
<tr>
<th>Substance</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
<th>$\chi^2$, df (1)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohol</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use before going out</td>
<td>47.5</td>
<td>37.9</td>
<td>44.5</td>
<td>4.873</td>
<td>.027*</td>
</tr>
<tr>
<td>Use while going out</td>
<td>94.8</td>
<td>94.7</td>
<td>94.8</td>
<td>0.002</td>
<td>.963</td>
</tr>
<tr>
<td>Use after going out</td>
<td>23.4</td>
<td>11.1</td>
<td>19.5</td>
<td>12.587</td>
<td>.000*</td>
</tr>
<tr>
<td><strong>Cannabis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use before going out</td>
<td>56.9</td>
<td>56.4</td>
<td>56.8</td>
<td>0.005</td>
<td>.945</td>
</tr>
<tr>
<td>Use while going out</td>
<td>59.8</td>
<td>54.5</td>
<td>58.5</td>
<td>0.470</td>
<td>.493</td>
</tr>
<tr>
<td>Use after going out</td>
<td>59.2</td>
<td>50.9</td>
<td>57.2</td>
<td>1.172</td>
<td>.279</td>
</tr>
<tr>
<td>Individual use</td>
<td>40.5</td>
<td>35.2</td>
<td>39.2</td>
<td>0.480</td>
<td>.488</td>
</tr>
<tr>
<td>Use in group</td>
<td>85.1</td>
<td>83.3</td>
<td>84.7</td>
<td>0.100</td>
<td>.751</td>
</tr>
<tr>
<td><strong>Xtc</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use before going out</td>
<td>20.3</td>
<td>23.1</td>
<td>21.0</td>
<td>0.094</td>
<td>.759</td>
</tr>
<tr>
<td>Use while going out</td>
<td>87.3</td>
<td>88.5</td>
<td>87.6</td>
<td>0.023</td>
<td>.880</td>
</tr>
<tr>
<td>Use after going out</td>
<td>5.1</td>
<td>11.5</td>
<td>6.7</td>
<td>1.318</td>
<td>.251</td>
</tr>
<tr>
<td>Individual use</td>
<td>25.4</td>
<td>19.2</td>
<td>23.7</td>
<td>0.394</td>
<td>.530</td>
</tr>
<tr>
<td>Use in group</td>
<td>73.2</td>
<td>76.9</td>
<td>74.2</td>
<td>0.135</td>
<td>.713</td>
</tr>
<tr>
<td><strong>Cocaine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use before going out</td>
<td>46.4</td>
<td>25.0</td>
<td>41.7</td>
<td>2.351</td>
<td>.125</td>
</tr>
<tr>
<td>Use while going out</td>
<td>62.5</td>
<td>37.5</td>
<td>56.9</td>
<td>3.172</td>
<td>.075</td>
</tr>
<tr>
<td>Use after going out</td>
<td>23.2</td>
<td>31.3</td>
<td>25.0</td>
<td>0.492</td>
<td>.513</td>
</tr>
<tr>
<td>Individual use</td>
<td>36.7</td>
<td>31.3</td>
<td>35.4</td>
<td>0.159</td>
<td>.690</td>
</tr>
<tr>
<td>Use in group</td>
<td>61.2</td>
<td>62.5</td>
<td>61.5</td>
<td>0.008</td>
<td>.927</td>
</tr>
<tr>
<td><strong>Amphetamines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use before going out</td>
<td>34.3</td>
<td>44.4</td>
<td>37.7</td>
<td>0.522</td>
<td>.470</td>
</tr>
<tr>
<td>Use while going out</td>
<td>57.1</td>
<td>66.7</td>
<td>60.4</td>
<td>0.451</td>
<td>.502</td>
</tr>
<tr>
<td>Use after going out</td>
<td>11.4</td>
<td>11.1</td>
<td>11.3</td>
<td>0.001</td>
<td>.972</td>
</tr>
<tr>
<td>Individual use</td>
<td>31.4</td>
<td>22.2</td>
<td>28.3</td>
<td>0.496</td>
<td>.481</td>
</tr>
<tr>
<td>Use in group</td>
<td>51.4</td>
<td>72.2</td>
<td>58.5</td>
<td>2.117</td>
<td>.146</td>
</tr>
</tbody>
</table>

*p < .05.

**Note:** Patterns of drug use: percentages that are presented are based on the group of users of the particular substance and respondents were able to fill in more than one answer.

**Combined use**

It appears that men significantly more often combine alcohol use with illegal drug use than women ($U = 5087.5; p = 0.026$), but that both groups combine the use of two or more illegal substances to the same extent (cf. table 4). Also, combined drug use seems to increase with age: the older the respondent, the more frequent various illegal drugs are combined ($rs = 0.263; p = 0.00$). Combining alcohol and illegal drugs has no significant correlation with age ($rs = 0.101; p = 0.109$).
Table 4: Percentages of men and women for patterns of use, χ² and p-value

<table>
<thead>
<tr>
<th>Combination alcohol with illegal drugs</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
<th>Mann-Whitney (U)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>22.2</td>
<td>31.3</td>
<td>24.4</td>
<td></td>
</tr>
<tr>
<td>Less no than yes</td>
<td>28.9</td>
<td>29.7</td>
<td>29.1</td>
<td></td>
</tr>
<tr>
<td>As much yes as no</td>
<td>17.0</td>
<td>25.0</td>
<td>19.0</td>
<td>5087.5, p = .026</td>
</tr>
<tr>
<td>More yes than no</td>
<td>17.0</td>
<td>7.8</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>14.9</td>
<td>6.3</td>
<td>12.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Combination of various illegal drugs</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
<th>Mann-Whitney (U)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>56.0</td>
<td>60.0</td>
<td>57.0</td>
<td></td>
</tr>
<tr>
<td>Less no than yes</td>
<td>16.6</td>
<td>27.7</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>As much yes as no</td>
<td>14.5</td>
<td>6.2</td>
<td>12.4</td>
<td></td>
</tr>
<tr>
<td>More yes than no</td>
<td>7.3</td>
<td>4.6</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>5.7</td>
<td>1.5</td>
<td>4.7</td>
<td>5666.5, p = .194</td>
</tr>
</tbody>
</table>

Note: Combined use: percentages are based on the group of users (used an illegal drugs last year).

Comparison of the 2005 and 2003 results

If the results of the 2003 (n= 645) and the 2005 survey are compared, a significant difference is observed only for age (t = -2.051; p = 0.040): in 2003, the mean age was 22 years, while in 2005 this was 7 months older. No differences were found between the two survey years concerning gender, employment and living situation.

The gender differences that appear in the 2005 survey are the same as in 2003: the frequency of alcohol, cannabis, amphetamine, ecstasy and cocaine use is significantly higher among men than among women. If we compare the mean ranks for frequency of use, the differences seem to decrease over the years (except for cocaine) (cf. table1). Furthermore, in 2003 the number of users of cannabis (t = 4.050; df = 467.014; p = 0.00), ecstasy (t = 5.994; df = 610.923; p = 0.00), amphetamines (t = 3.773; df = 610.089; p = 0.00), cocaine (t = 3.265; df = 589.585; p = 0.001) and alcohol (t = 1.070; df = 388.682; p = 0.285) is higher for men than women, except for alcohol. In 2005, this is only the case for cannabis and cocaine use. Correlations between age and substance use were only slightly higher in 2003, revealing a significant relation for cocaine (rs = 0.291; p = 0.00), amphetamine (rs = 0.278; p = 0.00) and ecstasy use (rs = 0.288; p = 0.00).
2.4 Discussion

This study including almost 700 partygoers provides various insights into the culture and context of drug use in Belgian nightlife (Flanders). Consistent with studies published in other countries, drug use in nightlife settings in Flanders is higher than among the general population (Calafat, et al., 1999; EMCDDA, 2002; Measham, et al., 2001; Riley, et al., 2001; Tossmann, et al., 2001). Almost all respondents (89.5%) drank alcohol in the past year and 44.2% reported the use of at least one illicit drug in the past year. Cannabis is the most-used illegal substance and ecstasy has reached second place. Cocaine and amphetamines are used less frequently and by fewer people as compared to the study of Calafat et al. (Calafat, et al., 1999). The use of GHB and ketamine is only marginally reported in the present study, although various recent international studies have found higher frequencies of GHB use (Barrett, Gross, Garand, & Pihl, 2005; Korf, Nabben, & Benschop, 2003; Pijlman, Krul, & Niesink, 2003; Riley & Hayward, 2004). Rohypnol or methamphetamine were neither included in the questionnaire nor reported by the respondents in the open question, as was expected.

Three out of four respondents combine alcohol with illegal drugs, and almost half of them combine various illegal drugs. Combined use of alcohol and illicit drugs or various illicit drugs has been identified in various studies on nightlife (Calafat, et al., 1999; Measham, et al., 2001; Nabben & Korf, 2000; Parker & Williams, 2003; Riley & Hayward, 2004; Tossmann, et al., 2001; Winstock, et al., 2001). The combined use of alcohol and illicit drugs often happens unintentionally while going out (Van Havere, De Donder, Geirnaert, Schrooten, & Vermeulen, 2005), thereby blurring the licit and illicit (Duff, 2003). Still, various illicit drugs are combined on purpose to obtain a specific effect, e.g. to reinforce pleasant effects or to oppress depressive feelings (Laudens, 2004).

Prevention interventions in nightlife settings focus mostly on illegal substances, but more attention for alcohol as a party drug and for the combination of alcohol and illicit drugs is needed in this setting. More knowledge about the effects of combined use may alter the behaviour of drug users. For these partygoers, the focus of prevention and harm reduction messages should be on short-term consequences, including driving under the influence, violence, rape and acute health problems,...

Despite various alcohol campaigns, a substantial number of young adults drive under the influence from one club to the other or when going home (Degenhardt, Dillon, Duff, & Ross, 2006; Scheers, Verstraete, Adriaensen, Raes, & Tant, 2006). High doses of amphetamines and cocaine appear to increase risk-taking and result in inappropriate and dangerous driving behaviour, such as speeding and carelessness (Albery, Gossop, & Strang, 1998). Some may believe they are in control and able to drive a motor vehicle after a night of drug taking (Degenhardt, et al., 2006). Media campaigns outlining
not only the effects of drugs on driving behaviour, but also how long the drug can be detected and information on legislation regarding driving under the influence are relevant for partygoers. No recent data are available in Belgium about the number of traffic accidents caused by persons under the influence of alcohol and other drugs (Scheers, et al., 2006). Systematic alcohol and drug tests when accidents occur are needed to fill this gap.

Excessive alcohol use is also related to health problems (e.g. dehydration) and violence (Bieleman, Maarsingh, & Meijer, 1998; Passies, 1991). Treatment of physical problems is regarded as a good moment to refer persons to substance abuse treatment, but usually linkage between emergency departments and alcohol and drug treatment services is poor and not monitored (Vanderplasschen, De Bourdeaudhuij, & Van Oost, 2002). Case management may help to improve linkage to needed services and to reduce re-hospitalization (Vanderplasschen, Wolf, Rapp, & Broekaert, 2007). Dutch research has shown an increase of alcohol use among the group of first aid visitors at big dance events (Pijlman, et al., 2003). Being informed about trends in the nightlife scene can help first aid services at events or clubs to improve the accuracy of their physical assessments. Physical aggression and violent offences are widely known consequences of excessive alcohol consumption (Graham et al., 1998). Rossow and colleagues (1999) have demonstrated that a fairly large proportion of self-reported violent incidents among young people occur under the influence of alcohol, and that a significant proportion of those who engage in violent behaviour attribute this to their own drinking.

From the present study we know that alcohol, coke, ecstasy and amphetamines are especially used while going out, but many respondents also use drugs before going out. Cannabis is used before, while and after going out. In general, consumption of party drugs before going out is likely to be motivated by participants wanting to avoid being caught bringing drugs into the club. Moreover, it also means that they do not have to spend time in the club waiting for the drugs to start taking effect (Riley & Hayward, 2004). According to Nabben et al. (2005), young persons drink before going out mainly for financial reasons. Partying is very expensive, and by drinking before going out they can limit their expenses on drinks. Cannabis use before a night out is part of its general use, whereas its dominance as a post-club “chill-out” drug is directly related to its relaxing properties and potential to induce sleep (Measham, et al., 2001).

The influence of age

In this study, the mean age is 22 years and 8 months. In 2003 and 2005, the use of ecstasy, cocaine and amphetamines increases with age, while in the oldest age group substance use decreases. In the linear regression, we found a significant effect of age for the use of amphetamines, ecstasy and cocaine. Based on interviews with professionals
from the club scene and with clubbers, it is suggested that there is a link between age – or more specifically, maturity and changing life circumstances – and cutting down or abstaining from drug use or drug repertoires (Measham, et al., 2001; Plant, Plant, & Mason, 2002; Van Havere, et al., 2005). Most recreational drugs users don’t get into trouble with their drug use. Drug use is part of the lifestyle of young people who go out and decreases with the increase of responsibilities. It is important to take this into account when we set up prevention programs. More selective prevention is needed to address older, recreational, non-dependent drug users. Messages such as “Just say no” are unlikely to have much impact, and it is more realistic to reduce or minimize harm. Targeted prevention is required for this group (Akram & Galt, 1999).

“Growing up” in many Western countries has been significantly extended due to dissatisfaction with or exclusion from the labour market, increased participation rates in further and higher education, lower marriage rates and greater dependence on the family household. This suspension of adult roles includes the fact that increasing numbers of young adults are remaining at home into their twenties and even thirties, and have more disposable income for consumer spending (Aubrey, et al., 2001). In the present study, half of the respondents have a job, but more than six out of ten (still) live at home with their parents.

Gender differences

It appears that males are significantly more likely to use illicit drugs than women. More specifically, more men use cannabis and cocaine than women. In contrast to what we expected (women using amphetamines for losing weight), there is no gender difference in the use of amphetamines. Men more often use alcohol, cannabis, amphetamines, ecstasy and cocaine than women. It can be concluded that there is a gender difference in frequency of use, but that the gender difference concerning the number of users is only applicable for cannabis and cocaine. In comparison with 2003, the gender differences in 2005 are smaller. The differences in frequency and number of users are declining. This may mean that women are catching up with men with regard to alcohol use and illicit drug use (Holmila & Raitasalo, 2005). According to the present study, this primarily concerns the number of users rather than the frequency of drug use. Men still use more often than women. Other significant gender differences were found in drinking before and after going out: men do this more often than women. Men also combine alcohol with illegal drugs more often than women do, but for the combined use of various illegal drugs no gender differences were found.

Yeh et al. (2006) concluded that gender-specific issues should be taken into account when developing prevention programs for adolescent problem drinking. It seems that we should see drug use as the preserve of either gender, determined by the complex interaction over time of other major factors such as age, parental monitoring and peer
group associations (Bloor, 2006). An attendant concern are the results of Rossow’s research (2005) in which increasing substance use of girls in puberty and adolescence is related to an increase in the prevalence of suicide attempts. De Wilde et al. (2006) also found differences in the psychiatric profile between men and women. Media campaigns to destigmatize psychological problems and suicide can support other interventions (Mann et al., 2005).

The narrowing gap between men and women can be explained by some general changes in women’s lives. Since women started to work outside the home, they have gradually adopted male values and behaviour patterns, and their freedom as individual consumers has increased. Various social mechanisms interact with gender, such as the difficulties of having a double role in society as a woman (Holmia & Raitasalo, 2005). Even the role of drinking has changed from a largely male ritual to a broader lifestyle phenomenon associated with fun, hedonism and courtship. Even alcohol itself has become more woman-friendly (with wine, spirits and cocktails) (Aubrey, et al., 2001). Risk-taking behaviour can be seen as a positive, productive part of the construction of their feminine identity, including access to pleasure. They feel empowered by using drugs, engaging in other risk behaviour and challenging “traditional” modes of femininity (Hutton, 2004; Pini, 2001).

Limitations of the study

As was previously stated, clubbers and visitors of festivals and events are often difficult to reach for research, but we were able to reach over 700 respondents at festivals, dance events and in clubs. They were all willing to fill in a questionnaire while going out. The party environment is the natural habitat for doing research on drug use and nightlife. Such studies in the party scene are rare. As it is very difficult to “disturb” respondents for longer than five or ten minutes, the questionnaire could not be very long.

Several authors have shown that even in party environments, questionnaires can be used as tools for assessment (Ter Bogt & Engels, 2005; van de Wijngaart et al., 1999). The reliability of respondents’ answers was controlled by adding an imaginary substance to the list of substances. The 4.6% of respondents who filled in this imaginary “drug” were discarded for further analyses as not being reliable.

A random sample of visitors at the selected settings was established. Given the selection of the nightlife settings, this study is not representative for all partygoers in Belgium, but it is representative for the festivals visited and the most famous party events in Belgium. Another limitation of this study concerns the small proportion of unemployed respondents. Only 3.5% of the respondents had no job at the time of the survey. Attending rock festivals, clubs and dance events is expensive, and a limited
budget might explain the underrepresentation of unemployed people in the nightlife scene.

Conclusion

The findings thus seem to indicate that drug use in the nightlife setting is higher than in the general population. Alcohol is the star of the night followed by cannabis and ecstasy. Cocaine and amphetamines come next. Illegal drug use increases with age, but in the oldest age groups substance use decreases. It has been suggested that there is a link between age and maturity and increased responsibilities. More responsibilities means less frequent illegal drug use. The differences between gender are getting smaller and women are catching up with men with regard to alcohol and illegal drug use. This can be explained by the general changes in the role of women in society.
References


Chapter 3

Drug use and nightlife: More than just dance music

Abstract

Research over the last decade has focused almost exclusively on the association between electronic music and ecstasy (MDMA = 3,4-Methylenedioxymethamphetamine) or other stimulant drug use in clubs. Less attention has been given to other nightlife venues and music preferences, such as rock music or southern/funky music. This study aims to examine a broader spectrum of nightlife, beyond dance music. It looks at whether certain factors influence the frequency of illegal drug and alcohol use: the frequency of going to certain nightlife venues in the previous month (such as, pubs, clubs or goa parties); listening to rock music, dance music or southern and funky music; or sampling venues (such as, clubs, dance events or rock festivals). The question of how these nightlife variables influence the use of popular drugs like alcohol, ecstasy, cannabis, cocaine and amphetamines is addressed. The study sample consisted of 775 visitors of dance events, clubs and rock festivals in Belgium. Study participants answered a survey on patterns of going out, music preferences and drug use. Odds ratios were used to determine whether the odds of being an illegal substance user are higher for certain nightlife-related variables. Furthermore, five separate ordinal regression analyses were used to investigate drug use in relation to music preference, venues visited during the last month and sampling venue. Respondents who used illegal drugs were 2.5 times more likely to report that they prefer dance music. Goa party visitors were nearly 5 times more likely to use illegal drugs. For those who reported visiting clubs, the odds of using illegal drugs were nearly 2 times higher. Having gone to a pub in the last month was associated with both more frequent alcohol use and more frequent illegal substance use. People who reported liking rock music and attendees of rock festivals used drugs less frequently.

It was concluded that a more extended recreational environment, beyond dance clubs, is associated with frequent drug use. This stresses the importance of targeted prevention in various recreational venues tailored to the specific needs of the setting and its visitors.

3.1 Introduction

Epidemiological studies have shown that so-called party people (a global term for people who visit clubs, parties of all kinds, music festivals and dance events) are more experienced with illegal drugs than other groups of young people who “go out” (Chen, Miller, Grube, & Waiters, 2006; Forsyth, Barnard, & McKeeganey, 1997; McCaughan, Carlson, Falck, & Siegal, 2005; Measham, Aldridge, & Parker, 2001; Winstock, Griffiths, & Stewart, 2001; Yacoubian, Boyle, Harding, & Loftus, 2003). A recent study by Calafat et al. (2008) demonstrated that factors associated with various recreational nightlife activities, such as music preference and venue choice, were relevant predictors of
illegal drug use in several European countries. Thus, studying the relationship between particular music preferences, or behavioural patterns of “going out” and illegal drug use, may help to identify potential pathways for targeted interventions to reduce drug-related harm among at-risk groups (Lim, Hellard, Hocking, & Aitken, 2008). However, over the last decade, such research has focused almost exclusively on the correlation between electronic music and ecstasy or other stimulant drug use (Adlaf & Smart, 1997; Forsyth, et al., 1997; Ter Bogt & Engels, 2005). While typical “club drugs”, such as ecstasy (XTC), cocaine (coke) and amphetamines (speed), have been closely linked to dance music (Tossmann, Boldt, & Tensil, 2001; Weir, 2000; Winstock, et al., 2001; Yates, 1999), significantly less attention has been given to other music preferences, such as rock music.

This study aims to examine a broader spectrum of nightlife, beyond dance music. It looks at whether certain factors influence the frequency of illegal drug and alcohol use: the frequency of going to certain nightlife venues in the previous month (such as, pubs, clubs or goa parties); listening to rock music, dance music or southern and funky music; or sampling venues (such as, clubs, dance events or rock festivals).

Research on nightlife venues (e.g. festivals and pubs) other than clubs/raves is rare (Martinus, McAlaney, McLaughlin, & Smith, 2010). Calafat et al. (Calafat, Gomez, Juan, & Becona, 2007) broadened the scope of their study to include other mainstream nightlife venues, demonstrating that the use of alcohol and illegal drugs is also linked to the frequency of visiting bars and pubs. Until recently, little attention has been paid to music festival attendees’ use of illegal substances (these music festivals are comparable to rock festivals examined in our study). Lim et al. (Lim, et al., 2008) interviewed young people attending a music festival in Australia, and found higher drug use prevalence among this population than among respondents to a National Drug Strategy Household Survey. In contrast, according to a UK survey, the majority of respondents reported that they did not use illegal drugs while attending music festivals (Martinus, et al., 2010). Alcohol consumption was, however, reported by the majority (88%) (Martinus, et al., 2010). Another study, which focused on first time use of legal and illegal drugs at music festivals, demonstrated that visitors to rock festivals mainly reported using tobacco and cannabis for the first time (Hesse, Tutenges, & Schlieve, 2010).

Moore and Miles (Moore & Miles, 2004) found an association between substance use and alternative music styles in the electronic music scene: respondents were more likely to consume ecstasy at “hard house” and “trance nights”, and were more likely to drink alcohol if they attended “funky house nights”. According to key informants and police sources in Belgium, frequenters of goa parties are more likely to use drugs than people who frequent other sub scenes within the electronic dance music world (Van Havere, De Donder, Geirnaert, Schrooten, & Vermeulen, 2005). Goa trance (common
at goa parties) is essentially “dance-trance” music; the goal being to assist dancers to experience a collective state of bodily transcendence, similar to that of ancient shamanic dancing rituals, through hypnotic, pulsing melodies and rhythms. It has its roots in the state of Goa in India (Saldhana, 2006). Although a shift in the dance party scene away from “underground” events has been observed (Lenton & Davidson, 1999), a revival of the dance “underground” has recently been reported, with the advent of goa parties held at secret venues (Van Havere, et al., 2005). Moreover, this alternative music style within the electronic dance music scene seems to be associated with greater drug use.

Belgium offers an excellent opportunity to focus on several different nightlife scenes, since it is known for its variety of music styles and venues and its large music events (such as, I Love Techno, 10daysoff and rock festivals like Rock Werchter, etc.). This study will elaborate and expand upon findings from previous studies, because few studies have examined substance use by followers of various music styles (dance, rock and mixed southern and funky music) and frequenters of various nightlife venues (dance events, clubs, rock festivals, pubs, goa parties, etc.). These nightlife variables will be studied in relation to substance use. Although ecstasy is the most notorious club drug (Adlaf & Smart, 1997; Fendrich, Wislar, Johnson, & Hubbell, 2003; Saunders, 1995; Soeliner, 2005; Ter Bogt & Engels, 2005), cannabis appears to be the most popular illicit drug among party people (Van Havere, Vanderplasschen, Broekaert, & De Bourdeaudhuij, 2009; Weir, 2000). Furthermore, the combination of alcohol and illegal drugs or the combination of different illegal drugs, is a particularly worrying characteristic of dance drug users for policymakers and health workers (Hunt, Evans, Moloney, & Bailey, 2009; Tossmann, et al., 2001). This article focuses on the (frequency of) use of the most popular drugs: alcohol, cocaine, ecstasy, cannabis and amphetamines (Van Havere, et al., 2009).

### 3.2 Method

**Sample**

This survey was administered to those participating in Belgian nightlife using a self-report questionnaire. A sample of 811 respondents was surveyed at three dance clubs, two dance events and two rock festivals in Flanders (for a more detailed description, see (Van Havere, et al., 2009)). These specific events and clubs were chosen because of their scale (in order to ensure a large enough sample size) and location (regional spread). Furthermore, pragmatic issues played a role, like: already existing contacts with key figures in some regions and club owners, promoters, to maximize participation in the study. The most popular clubs and events in Belgium were included in the study. Dance music was played in the clubs and at the dance events, but there were also DJs
Drug use and nightlife: More than just dance music or bands playing dance music at the rock festivals. The clubs included in this study are small scale, open every weekend, and have fewer visitors per occasion than the dance events or rock festivals, which are large events mostly held in the open air during the summer welcoming over 10,000 visitors.

Table 1: Sample characteristics (n = 775).

<table>
<thead>
<tr>
<th></th>
<th>Dance events N (%)</th>
<th>Rock festivals N (%)</th>
<th>Clubs N (%)</th>
<th>Total N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondents</strong></td>
<td>270 (34.8)</td>
<td>269 (34.7)</td>
<td>236 (30.5)</td>
<td>775</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>189 (25.3)</td>
<td>127 (17.0)</td>
<td>146 (19.6)</td>
<td>462 (69.1)</td>
</tr>
<tr>
<td>Female</td>
<td>74 (9.9)</td>
<td>131 (17.6)</td>
<td>79 (10.6)</td>
<td>284 (38.1)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;18</td>
<td>26 (3.6)</td>
<td>74 (10.3)</td>
<td>54 (7.5)</td>
<td>154 (21.4)</td>
</tr>
<tr>
<td>18-23</td>
<td>117 (16.3)</td>
<td>86 (11.9)</td>
<td>107 (14.9)</td>
<td>310 (43.1)</td>
</tr>
<tr>
<td>24-29</td>
<td>79 (11.1)</td>
<td>54 (7.5)</td>
<td>40 (5.6)</td>
<td>173 (24.0)</td>
</tr>
<tr>
<td>≥30</td>
<td>26 (3.6)</td>
<td>47 (6.5)</td>
<td>10 (1.4)</td>
<td>83 (11.5)</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>78 (10.8)</td>
<td>137 (19.1)</td>
<td>117 (16.3)</td>
<td>332 (46.2)</td>
</tr>
<tr>
<td>Job</td>
<td>166 (23.1)</td>
<td>113 (15.7)</td>
<td>108 (15.0)</td>
<td>387 (53.8)</td>
</tr>
<tr>
<td><strong>Living status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With parents</td>
<td>162 (21.4)</td>
<td>163 (21.5)</td>
<td>171 (22.6)</td>
<td>496 (65.5)</td>
</tr>
<tr>
<td>On their own or living together with friend/partner</td>
<td>99 (13.1)</td>
<td>101 (13.3)</td>
<td>61 (8.1)</td>
<td>261 (34.5)</td>
</tr>
</tbody>
</table>

In total, 1406 individuals were invited to participate in this study, 811 individuals completed the questionnaire, 595 people refused to participate. Based on the researchers’ observations, many people refused to participate because they were on their way to a bar, or wanted to see a particular artist who was starting his/her act. Other people did not want to participate because they were accompanied by a group of friends. Surveys from 36 respondents (4.1%) were excluded from the data analyses as unreliable, because they reported the use of ‘NTSC’, an imaginary substance that was added to the questionnaire. Obviously intoxicated visitors were also barred from participating in this study. If these respondents insisted on participating, their filled in survey was marked for deletion and removed from the analyses (n = 3).

The final study sample of 775 respondents consisted of 61.9% males and 38.1% females, with a mean age of 22 years and 8 months (M = 22.7, SD = 5.9). The mean age of the
sample recruited in clubs is lower as compared with the other two samples and more club visitors still live with their parents \( (F(2, 717 = 12.29, p < 0.01) \). In the sample of respondents of dance events we find fewer respondents who are still students in comparison with rock festivals and clubs \( (\chi^2 (2) = 30.37, p < 0.01) \). Furthermore, more female respondents were recruited at rock festivals \( (\chi^2 (2) = 29.51, p < 0.01) \) (cf. Table 1).

**Procedure and survey instrument**

This survey was first administered in 2003 and repeated in 2005 and 2007. In this paper, however, only the data from the survey conducted between 1 July 2007 and 12 November 2007 are included.

Visitors to dance clubs and events were asked to participate in this study. To avoid selection bias, polltakers invited every fifth visitor to complete a short self-report questionnaire. Visitors were informed that filling out the questionnaire would take 5 to 10 minutes; respondents received no financial compensation.

The questionnaire consisted of multiple-choice questions and two open-ended questions. The first section included some demographic variables (Calafat et al., 1999), while the second part focused on going out patterns (Winstock, et al., 2001). Eighteen music styles were listed in the questionnaire and study respondents cited their favourite music preference(s) (no limitations were imposed on possible answers). Categories for music preferences were based on an Internet search of relevant websites, and were approved during an expert meeting of prevention workers and nightlife professionals (VAD, 2003). Another question asked respondents to select the nightlife venues they had visited in the last 30 days (e.g. pubs, clubs and goa parties). The third part of the survey instrument assessed the frequency of the use of various substances (Tossmann, et al., 2001; Winstock, et al., 2001). Seven categories for frequency of drug use were distinguished: 1) never used this drug; 2) ever used, but not in the last year; 3) once a month or less; 4) several times a month; 5) once a week; 6) several times a week; and 7) daily. The fourth section included questions on the context of substance use (e.g. when and with whom respondents use), as well as combined substance use or poly-drug use (Riley, James, Gregory, Dingle, & Cadger, 2001). Every respondent was asked to complete the section on preventive health measures taken regarding substance use (Hacourt, 2002). The last section of the questionnaire consisted of open-ended questions on emerging trends in (i.e. patterns of) drug use.

**Data analysis**

Prior to the statistical data analysis, all questionnaires were first entered into the data set by hand, using SPSS 17.0. To ease the interpretation, some variables were recoded. To analyse the association between music preference and drug use, the 18 music styles
included in this study were reduced to 3 music preferences based on media sources (e.g. Internet), interpretations of DJ's and observations from polltakers. In addition, we considered the internal consistency of the music categories. The above resulted in three categories of music preferences: dance music ($\alpha = 0.7$), rock music ($\alpha = 0.6$) and a mix of southern and funky music ($\alpha = 0.7$) (cf. Table 2). "Dance music" included house, progressive, techno, electro, drum & bass, goa trance and trance. "Rock music" consisted of rock, surf, metal, hardcore and pop music. "Southern and funky music" included Salsa, Latino and R&B, hip-hop and rap, disco, reggae and ragga.

Given the variety of substances included in the questionnaire, we limited our findings to the substances most frequently used by those participating in Belgian nightlife: alcohol, cannabis, ecstasy, amphetamines and cocaine (Van Havere, et al., 2009).

To determine the relation between substance use and nightlife variables, two types of analyses were performed. First, to determine whether the odds of being an illegal substance user are higher for certain music and nightlife-related variables (i.e. music preference: rock, dance and southern/funky music; last month visits: clubs, pubs and goa parties; sampling venues: dance events, rock festivals and clubs), we calculated odds ratios for the subsample of respondents who claimed to have used an illegal drug during the last year and the subsample of those who did not. Focusing on use last year gives a more reliable insight than focusing on more recent use, because the latter category could be influenced by the timing of the survey: during holidays and free of responsibilities, young people tend to use more substances than during the school year (Bellis, Hughes, Bennett, & Thomson, 2003). We compared last year illegal drug use (yes/no) with the nightlife related variables (yes/no variables for dance music preference, southern and funky music preference, rock music preference, going to pubs, clubs, goa parties, sampled at dance events, rock festivals or in clubs). Second, to investigate the association between the frequency of use for specific types of drugs and the various independent variables, we performed five separate ordinal regression analyses using a proportional odds model (Lum, Corliss, Mays, Cochran, & Lui, 2009). In each of these five analyses, the frequency of using a specific substance during the last year (alcohol, cannabis, amphetamines, ecstasy or cocaine) was regressed on age (entered as continuous variable), gender, music preference (yes/no for dance music preference, southern and funky music preference, rock music preference), number of visits to clubs, pubs and goa parties within the last month (entered as continuous variables), and sampling venue. To interpret venue effects with regard to the grand mean, the original venue variable consisting of three categories was recoded using an effect coding scheme (Agresti, 2002).

For practical reasons (because more categories increase the difficulty of data interpretation from ordinal regression analyses), the original dependent variable (frequency of last year use) consisting of 7 categories was reduced into a variable with three ordered categories: (1) No use: people who never used this drug or have
used it, but not within the last year; (2) Occasional use: people who recently used this drug, on a monthly basis or less frequently; and (3) Regular use: people who used this substance at least weekly. As opposed to simple logistic regression, using these ordered categories enables us to investigate the frequency of last year use instead of simply having used a certain drug the last year (yes/no). In the parameterization used by Stata for the proportional odds model, a positive value for $\beta$ indicates that with increasing values for the predictor, the odds increase of being above a given value of $k$ (with $k = 1, ..., \text{number of ordinal categories} - 1$). In other words, a positive coefficient implies increasing probability of being in higher-numbered categories (of the dependent variable $Y$) with increasing values for the predictor (holding all other independent variables fixed) (Agresti, 2002). For the present analyses this means that a positive coefficient points to an increased probability of being a high frequency user.

The proportional odds assumption was not fulfilled for models with alcohol, cannabis and ecstasy use as the dependent variable. However, fitting partial proportional odds models for these cases did not alter data interpretation. All (partial) proportional odds model fitting was done using STATA 10 (StataCorp, 2007; Williams, 2006). The statistical significance level was set at $\alpha = 0.05$.

### 3.3 Results

**Going out patterns**

A total of 775 visitors to clubs (30.5%), dance events (34.8%), and rock festivals (34.7%) were included in the study. Over four-fifths (84.6%) of the survey respondents reported that they liked dance music, 61% liked rock music, and more than half of the respondents liked southern and funky music (53.9%). Based on our results, there is a clear overlap between the categories, suggesting that, nowadays, young people prefer various kinds of music.

When asked how many times they visited a nightlife venue in the last month, 84.4% of survey respondents reported having been in a pub and 57.1% reported visiting a club, while only 7.9% of respondents attended goa parties. The mean frequency of going to these venues in the last month is 7 times for pubs and 2 times for clubs.

**Drug use characteristics**

Alcohol was the most commonly used party drug (91.5%) during the last year, while more than half of the respondents (51.8%) reported using an illegal drug. Cannabis (44.4%) was the most popular illegal substance, followed by ecstasy (19.1%) and cocaine (17.1%), while the use of amphetamines was reported to a limited extent (10.0%).
respect to regular substance use, 63.9% of respondents consumed alcohol on a daily to weekly basis and 22.4% smoked cannabis with the same frequency. As expected, stimulants were used less frequently: 5.9% reported regular ecstasy use, 4.3% regular cocaine use, and 3.5% regular amphetamine use.

Illegal drug use over the last year

Odds ratios were calculated (cf. Table 2) in order to further examine the differences between the respondents who reported having used illegal drugs during the last year and those who reported not having used illegal drugs during the last year. The odds of respondents who reported liking dance music using illegal drugs were 2.5 times higher (OR = 2.47, 95% CI [1.61, 3.78]) than the odds of respondents not liking dance music using illegal drugs. Also, the odds of respondents that indicated liking rock music using an illegal drug were half as high as respondents who did not report liking rock music (OR = 0.53, 95% CI [0.39, 0.72]). Eight out of 10 goa partygoers reported using an illegal drug during the past year. In terms of odds, visitors of goa parties were nearly five times more likely to have used an illegal drug than respondents not going to these parties (OR = 4.85, 95% CI [2.41, 9.77]). Furthermore, the odds of respondents who reported frequenting clubs having used an illegal drug were almost twice as high as people not going to clubs (OR = 1.79, 95% CI [1.33, 2.42]). The proportion of illegal drug users was lower in the group of respondents who were recruited at rock festivals (OR = 0.54, 95% CI [0.40, 0.74]), but significantly higher for respondents recruited in clubs (OR = 1.42, 95% CI [1.03, 1.94]).

Table 2: Proportion and odds of last year substance use according to music preference, nightlife environment and sampling venue (n = 775).

<table>
<thead>
<tr>
<th>Music preference (yes/no)</th>
<th>% that used any illegal drug during the last year</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance music</td>
<td>55.6</td>
<td>2.47**</td>
<td>1.61 - 3.78</td>
</tr>
<tr>
<td>Rock music</td>
<td>46.1</td>
<td>0.53**</td>
<td>0.39 - 0.72</td>
</tr>
<tr>
<td>Southern and funky music</td>
<td>53.9</td>
<td>1.16</td>
<td>0.86 - 1.56</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visits to (yes/no)</th>
<th>% that used any illegal drug during the last year</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clubs</td>
<td>57.9</td>
<td>1.79**</td>
<td>1.33 - 2.42</td>
</tr>
<tr>
<td>Pubs</td>
<td>51.5</td>
<td>0.99</td>
<td>0.66 - 1.48</td>
</tr>
<tr>
<td>Goa parties</td>
<td>82.5</td>
<td>4.85**</td>
<td>2.41 - 9.77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sampling venue (yes/no)</th>
<th>% that used any illegal drug during the last year</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance events</td>
<td>56.5</td>
<td>1.34</td>
<td>0.99 - 1.82</td>
</tr>
<tr>
<td>Rock festivals</td>
<td>41.9</td>
<td>0.54**</td>
<td>0.40 - 0.74</td>
</tr>
<tr>
<td>Clubs</td>
<td>57.8</td>
<td>1.42*</td>
<td>1.03 - 1.94</td>
</tr>
</tbody>
</table>

* Fisher Exact Probability Tests with * p < 0.05, ** p < 0.01 and *** p < 0.001.
Chapter 3

Predictors of drug use related to music preference, last month visits and sampling venue

All music and nightlife-related variables, as well as gender and age, were entered into an ordinal regression analysis. The three-level (no, occasional and regular use) variables of last year use of alcohol, cannabis, ecstasy, amphetamine and cocaine use were included as dependent variables to investigate the frequency of use. All of the models were significant (an overview of all related statistics is presented in Table 3).

Age & gender

Age was found to be positively associated with higher levels of alcohol, ecstasy, cocaine and amphetamine use. More specifically, when age increases, the odds of falling into higher categories (i.e. more frequent use) of alcohol, ecstasy, cocaine and amphetamines use also increase (alcohol OR = 1.04, 95% CI [1.01, 1.08]; ecstasy OR = 1.10, 95% CI [1.06, 1.15]; cocaine OR = 1.09, 95% CI [1.05, 1.14]; amphetamines OR = 1.06, 95% CI [1.01, 1.11]), but not for cannabis.

In addition, being male (gender) was identified as a factor that makes a significant contribution to higher use of all substances, except amphetamines. The odds of female participants falling into high categories of alcohol, cannabis, ecstasy or cocaine use are approximately 50% lower than for male participants (alcohol OR = 0.55, 95% CI [0.38, 0.78]; cannabis OR = 0.52, 95% CI [0.37, 0.73]; ecstasy OR = 0.55, 95% CI [0.33-0.91]; cocaine OR = 0.55, 95% CI [0.32, 0.94]).

Music preference

Dance music preference is positively related to the use of cannabis, ecstasy and cocaine. More specifically, respondents who reported liking dance music have significantly higher odds of using cannabis, ecstasy and cocaine more often than those that reported not liking dance music (cannabis OR = 2.25, 95% CI [1.36, 3.72]; ecstasy OR = 3.19, 95% CI [1.12, 9.09], cocaine OR = 3.46, 95% CI [1.08, 11.07]).

Interestingly, liking rock music was found to be inversely associated with cocaine use. In fact, the odds that a rock music fan would fall into a higher category of cocaine use were a factor of 0.47 (95% CI [0.29, 0.76]) times smaller than respondents who said that they do not like rock music.

No significant associations were found between the preference for southern/funky music and the last year use of any of the drugs investigated.
Visits during the last month
With the exception of amphetamines, a positive association was found between the reported frequency of visiting a pub during the last month and higher use of all substances investigated; the more frequently respondents visited pubs, the higher the odds become that they fall into higher categories (more frequent use) for using alcohol (OR = 1.08, 95% CI [1.05, 1.11]), cannabis (OR = 1.02, 95% CI [1.00, 1.04]), ecstasy (OR = 1.05, 95% CI [1.02, 1.08]) and cocaine (OR = 1.04, 95% CI [1.01, 1.07]).

The reported frequency of attending goa parties was found to be a predictive variable in the models for cannabis, amphetamine and cocaine use. More specifically, the more frequently respondents attended these parties during the month prior to the survey, the higher the odds of using cannabis (OR = 1.28, 95% CI [1.09, 1.51]), amphetamines (OR = 1.10, 95% CI [1.02, 1.19]) and cocaine (OR = 1.23, 95% CI [1.07, 1.42]).

Frequent club visits were positively associated with the use of ecstasy and cocaine, but negatively associated with alcohol consumption. That is to say, the greater the frequency of club visits the greater the odds of higher levels of ecstasy (OR = 1.11, 95% CI [1.05, 1.17]) and cocaine (OR = 1.11, 95% CI [1.05, 1.18]) use. But at the same time, the greater the frequency of club visits was the lower the odds of high levels of alcohol consumption were (OR = 0.95, 95% CI [0.90, 1.00]).

Sampling venue

Compared to the average substance use level during the last year, respondents recruited at rock festivals reported less frequent use of ecstasy (OR = 0.41, 95% CI [0.26, 0.65]), amphetamines (OR = 0.50, 95% CI [0.29, 0.87]) and cocaine (OR = 0.51, 95% CI [0.31, 0.81]). Whereas, compared to average levels of reported ecstasy usage, participants recruited at clubs reported higher levels (OR = 1.48, 95% CI [1.04, 2.11]).

For participants recruited at dance events, the reported levels of both ecstasy and cocaine use were significantly higher than average (ecstasy OR = 1.63, 95% CI [1.19, 2.23]; cocaine OR = 1.69, 95% CI [1.22, 2.35]).
### 3.4 Discussion

This study aims to examine a broader spectrum of nightlife, beyond dance music. Therefore, we questioned 775 visitors of clubs, dance events and rock festivals on their patterns of going out and drug use.

For each drug, last year use (no, occasional and regular use) was regressed on various socio-demographic, music and nightlife variables.

The proportional odds ratios and their 95% CI for the five final ordinal regression models are shown below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Final model</th>
<th>Wald z-tests with * p &lt; 0.05, ** p &lt; 0.01 and *** p &lt; 0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>0.180</td>
<td>1.04** 1.01-1.08</td>
</tr>
<tr>
<td>Gender male</td>
<td>0.55*</td>
<td>0.55* 0.32-0.94</td>
</tr>
<tr>
<td>Music preference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dance music</td>
<td>2.25**</td>
<td>3.19* 1.12-9.09</td>
</tr>
<tr>
<td>Southern/funky music</td>
<td>0.47**</td>
<td>0.36-0.76</td>
</tr>
<tr>
<td>Rock music</td>
<td>0.47**</td>
<td>0.19-0.76</td>
</tr>
<tr>
<td>Number of last month visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pubs</td>
<td>0.95*</td>
<td>1.02-1.04</td>
</tr>
<tr>
<td>Clubs</td>
<td>0.95**</td>
<td>1.02-1.07</td>
</tr>
<tr>
<td>Goa parties</td>
<td>1.28**</td>
<td>1.10-1.19</td>
</tr>
<tr>
<td>Rock festivals</td>
<td>0.41</td>
<td>0.26-0.65</td>
</tr>
<tr>
<td>Dance events</td>
<td>1.63**</td>
<td>1.19-2.23</td>
</tr>
<tr>
<td>Sampling venue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clubs</td>
<td>0.55*</td>
<td>0.38-0.78</td>
</tr>
<tr>
<td>Dance events</td>
<td>1.09*</td>
<td>1.02-1.19</td>
</tr>
<tr>
<td>Clubs</td>
<td>1.48*</td>
<td>1.04-2.11</td>
</tr>
</tbody>
</table>

LR chi2 (10)                | 62.28       |
Prob > chi2                 | 0.0001      |
Pseudo R squared            | 0.180       |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |

Pseudo R squared            | 0.054       |
Prob > chi2                 | 0.0001      |
Dance music, dance events and clubs
Although legal and illegal substances were reportedly used at all nightlife venues and were associated with all music preferences, we uncovered some clear trends. As we expected the use of illegal drugs was more common at dance music venues than other nightlife venues. From our results, it is clear that illegal drug users (defined as those who have used an illegal drug during the past year) are more likely to report that they like dance music and frequently “go clubbing”. More specifically, individuals who report liking dance music are more likely to use ecstasy and cocaine frequently, two typical “club drugs”, as well as cannabis. Respondents recruited at dance events reported higher ecstasy and cocaine use and those recruited at clubs higher ecstasy use.

Furthermore, frequent club visits (number of visits during the last month) were positively associated with the use of ecstasy and cocaine. However, the frequency of club visits during the last month was negatively associated with alcohol consumption. Although not drinking alcohol was identified as a preventive measure by clubbers some years ago, we thought this trend had disappeared (Van Havere, et al., 2005). It is possible that some of the clubbers who use drugs are careful not to mix illegal drugs and alcohol in order to prevent health problems. Another reason clubbers do not drink alcohol might be that they believe that consuming alcohol leads to aggressive and violent behaviour (Weir, 2000). Furthermore, party people themselves say alcohol does not taste very nice when taken with ecstasy or amphetamines. In addition, the effects of consuming alcohol are oppressed if it is combined with cocaine (from the perception of the user) but still followed by a hangover afterwards (Van der Elst, 2009).

Goa parties
Even though the notion of distinct subcultures may be outdated (Gourley, 2004), there are still some sub scenes in which drug use plays a more prominent role, and in which a greater proportion of attendees use illegal drugs. In this study, participants who reported attending goa parties within the last month appeared to have had even more experiences with drugs than those who reported liking dance music. In fact, 8 out of 10 goa partygoers had used an illegal drug during the last year and were five times more likely to be illegal drug users. According to a study in 2005 (Van Havere, et al., 2005), the odds of goa party visitors using illegal drugs were 20 times higher than the odds of non-goa party visitors using illegal drugs. More specifically, going to goa parties was found to be a predictor of more frequent use of cannabis, amphetamines and cocaine. Specific music is being played at goa parties: goa trance and psy trance. It seems that underground or elitist music preferences can be linked to a higher prevalence of illegal drug use (Anderson, 2006). Mulder et al. (Mulder et al., 2009) have also found that a preference for non-mainstream music was positively associated with substance use, while in a study by Measham and Moore use of drugs during the previous month was highest among hard dance visitors (Measham & Moore, 2009). No relation was found with alcohol use, although some authors have stated that the combination of alcohol
and illegal drugs is very common in this scene. Usually only light beers are sold at these parties (Van der Elst, 2009).

A more expanded nightlife environment
The use of substances was not linked exclusively with the reported frequency of visiting clubs or preference for dance music, but it was associated with a more expanded nightlife environment. In addition to more frequent alcohol use, going to pubs in the last month was associated with more frequent use of illegal substances, including cannabis, ecstasy and cocaine. In support of this, Calafat et al. (2007) found that, in addition to discos and after-hours venues, legal and illegal substance use was also linked (to an even greater extent) with nightlife recreational venues that are less significant in the techno culture, such as bars and pubs.

The influence of rock music
Interestingly, reported preferences for rock music and being recruited at a rock festival, in contrast with other music styles or venues, appeared to be protective factors against substance use. Our results show that people who say they like rock music use cocaine less frequently than people who say they do not like rock music. In addition, compared to the average, attendees of rock festivals were less likely to use illegal drugs such as ecstasy, amphetamines and cocaine, although no clear association with alcohol use was observed. Furthermore, respondents recruited at rock festivals use cannabis less frequently than visitors at clubs and dance events (Van Havere, Donder, Geirnaert, & Schrooten, 2008). In a sample of respondents recruited at music festivals in the UK (Martinus, et al., 2010), the majority (68%) did not use any illegal drugs, and the most commonly used drug was cannabis. Hesse concluded in Denmark that onset use of cannabis at festivals is common, but trying other illicit drugs for the first time was rare (Hesse, et al., 2010).

It remains unclear whether taking drugs makes an individual more likely to listen to certain types of music or whether preferring certain types of music makes an individual more likely to use drugs (Forsyth, et al., 1997; Lim, et al., 2008). Party people use illicit drugs in recreational settings to enhance their musical and other social experiences (Lim, et al., 2008). Measham and Moore found evidence for a complex relationship between drug use, drinking, venue type and the entertainment on offer (Measham & Moore, 2009). Respondents in a study by Moore & Miles (2004) reported differences in the types of substances consumed, depending primarily on musical preference and venue. Thus, it appears more likely that adolescent substance users identify themselves according to their choice of music, while listening to music seems less likely to encourage drug use among this age group. In particular, more outgoing young people, who are able to socialise in the young adult world, would be most likely to discover rave music and drugs (Forsyth, et al., 1997). The problem is not, therefore, that young people fall victim to bad influences because they have other options. It
Drug use and nightlife: More than just dance music

is, rather, a matter of a two-dimensional dialectic: individual identity development as opposed to the prevailing culture (Calafat et al., 2001; Golub, Johnson, & Dunlap, 2005). Peers’ drug use or the perception that drug use is one of the prerequisites for acceptance and integration (Calafat, et al., 2001; Mulder et al., 2010) influences young party people newly arrived on the nightlife scene. Malbon (Malbon, 1999) talks about ‘belonging’, feeling part of a group, and taking on the habits and patterns of a group. Peer groups provide their members with an identity and sense of belonging different to those expected by the family (Tanner, Asbridge, & Wortley, 2008). Mulder et al. (2010) conclude that fans of different types of music select friends with use patterns that reinforce their own substance use inclinations.

Prevention in the nightlife environment

Festivals, dance events and clubs offer an excellent opportunity for health promotion, as it is possible to reach a large number of at-risk people in a short period of time (Lim, et al., 2008). Rave-based harm reduction strategies are appropriate for reducing the potential negative consequences of drug use (Adlaf & Smart, 1997). Environmental strategies in clubs are also believed to have the potential to develop effective drug prevention strategies (Miller, Holder, & Voas, 2009). However, based on our results, prevention efforts should not be limited to dance parties and clubs, because a considerable number of young people encounter drugs in other nightlife venues. Furthermore, as the results of the ordinal regression show we should make a distinction between occasional users (e.g. once a year) and more regular users.

Substance use prevention at rock festivals should focus on the use of alcohol and cannabis. Based on our results, going to rock festivals or listening to rock music does not appear to be directly linked to the use of other illegal drugs. However, prevention measures are still needed, including free water, especially when it is very hot outside. Rock festivals are mostly held in the summer and can attract tens of thousands of visitors (sometimes up to 80,000 people). The use of alcohol and/or cannabis in combination with the summer heat and other circumstances might cause health problems. Furthermore, music festivals may serve as an occasion for trying cannabis for the first time, and are therefore important targets for the prevention of cannabis use onset (Hesse, et al., 2010).

With the cooperation of pub owners, bartenders and bathroom personnel, very structured prevention and safety measures (e.g. staff training programmes) can be used to reach pub visitors. Such targeted interventions for reducing alcohol-related harm have been positively evaluated (Graham, Jelley, & Purcell, 2005; Holder & Wagenaar, 1994; Lang, Stockwell, Rydon, & Beel, 1998; Van Beurden, Reilly, Dight, Mitchell, & Beard, 2000), and could be extended to illegal drug users. Also, providing health education materials at nightlife venues may be more effective than spreading anti-drug use messages. Whittingham et al. (2009) found that exposing young people
to health education materials about how to minimise the potential hazards associated with drug use, rather than solely discouraging the use of drugs, did not have any counterproductive effects on individual acceptance of party drug use or other risk behaviours.

A specific at-risk population are those who visit goa parties. As these parties are increasingly organised within the public scene, collaborations with party organisers should be developed in order to set up prevention activities. Organisers are generally willing to take some precautions, especially since most of them have experienced first-hand the potential health risks associated with visitors who misuse drugs (Van Havere, et al., 2008). Substance use prevention for this group of party people needs to be tailored to their specific situation, and should start from the premise that drug use is deeply-rooted within this scene. Like prevention programmes that target overheating and drunk/drug-influenced driving, the overall objective should be to minimise harm. Sumnall et al. (Sumnall et al., 2010) suggest that hedonistic young people should be targeted with messages that increasing healthy choices will lead to more years in which to experience happiness and fun. Possible prevention and safety measures could include (as at other dance music events or clubs): 1) providing free water; 2) setting up an information stand on drug use; and 3) setting up a “chill-out” area where people can go when they have a bad trip. In addition, improved training for medical staff could enable visitors suffering from drug intoxication to be appropriately assessed (Wood et al., 2008). Goa parties typically last a whole weekend; music is played both at night and during the day. Designating peers to check whether people who appear to be sleeping are sleeping and not unconscious could therefore be of importance at these parties. Peer support interventions can be valuable. A recent evaluation of a peer-led intervention in Australia has suggested that peers are seen as credible sources of information and that messages delivered are remembered up to three months later (Degenhardt et al., 2009).

Bringing your own food and drink is allowed at most goa parties. This is also an important preventive measure, because financial reasons might hold back people to drink non-alcohol drinks and eat regularly. Furthermore, whether substance use and the behaviour associated with it, such as meeting sexual partners, leads to increased well being or ill health depends on the environment and individuals’ specific behaviour (Bellis, Hughes, & Lowey, 2002). For example, the decorations at parties can stimulate the psychedelic experience which most goa party people are looking for, but the decorations can also introduce individuals to bad trips (e.g. chaotic decoration). Clear messages about associations with physical and psychological problems are needed for this group. Prevention efforts should account for contextual and motivational factors — particularly the issues of pleasant and unpleasant times in the lives of young adults — in order to reduce its associated adverse outcomes (Kelly & Parsons, 2008). Prevention should differentiate between party people who experiment with drugs occasionally
Drug use and nightlife: More than just dance music

and party people who use drugs regularly (cf. results from the ordinal regression). More frequent users might reject messages on harm reduction. How pleasure can be incorporated into harm reduction should be central to the future development of policy and practice (Pennay & Moore, 2010). Those on the goa scene are, like hippies, against formal institutional structures and authority. Over-regulation could have stimulated young people to look to illegal parties for their entertainment. Initiatives taken in this scene will be better if they involve the goa party visitors themselves (Bellis, et al., 2002).

Study limitations
First, although clubbers and visitors of music festivals and events are often difficult to reach for research surveys, we were able to recruit nearly 800 respondents from festivals, dance events and clubs. Although the polltakers cannot guarantee that respondents were not under the influence of a substance when they filled out the survey, intoxicated individuals were not allowed to participate. Several authors have shown that, even in party environments, questionnaires can be used as reliable tools for assessment (Ter Bogt & Engels, 2005; van de Wijngaart et al., 1999). By adding an imaginary substance to the list of substances, we controlled the reliability of respondents’ answers and excluded unreliable surveys from the analyses.

A sample of visitors was selected from various nightlife venues. Although this study was not representative of all party people in Belgium, the most famous clubs and events in Belgium were included in this study. Belgium is well-known for its large music festivals, the variety of its music scene, and as the home of several pioneers of electronic music.

The chance of recruiting the same attendee at multiple events is very small and visitors would probably have pointed it out if they had already been asked to fill out the questionnaire. A more appropriate method for studying party people would be conducting a survey for an entire year at various venues. In addition, the use of online surveys would allow researchers to reach more respondents, although this could raise other methodological issues, like the problem of double counting or the representativeness of the study sample.

Second, the inclusion of only 18 different music preferences may have meant some participants had an inadequate number of options. Although respondents could fill in other music preferences, only a limited number of participants did so. In addition, answers to the question concerning which nightlife venues they had visited during the last 30 days could be dependent on the timing of the survey; sometimes the last 30 days included holidays or a period of school examinations. Dividing respondents into groups based on their music preferences and/or venue choices could also be questioned, because young people do not have only one music or venue preference (Tanner, et al., 2008). However, we countered this problem by including and analysing
frequencies instead of nominal values: more frequent participation in a nightlife scene was linked to the frequency of substance use.

Third, some questions were excluded after piloting the questionnaire. More interesting information could be included if the questionnaire could have been longer.

Finally, the frequency of substance use was divided into three categories, and failed to provide insight about the quantity of substances being used. Further research could yield more information on this topic.

**Conclusions**

Dance music lovers and visitors of goa parties and clubs are more likely to use illegal substances than those who do not like these music and go to these venues. Further research in the goa scene is needed to explore why the frequency of substance use is high in this scene. Research on the relationship between drug use and music has focused almost exclusively on electronic music and ecstasy or other stimulant drugs. However, our results indicate that the frequency of drug use is linked to a more extended recreational nightlife environment. Respondents who frequently visit pubs are more likely to have used alcohol and illegal drugs frequently. While, respondents recruited at rock festivals are the least likely to have used an illegal drug in the past year, and respondents who like listening to rock music used cocaine less frequently. However, young people who go out cannot be simply classified in one category. Dance music lovers also go to rock festivals or pubs, while rock music lovers will sometimes visit parties in clubs. This stresses the importance of prevention activities that target various recreational nightlife venues, and are tailored to the specific needs of the setting and its visitors.
References


StataCorp (2007). *Stata statistical software: release 10*. College station, TX: StataCorp.


Chapter 4

Illicit drug use in the Flemish nightlife scene between 2003 and 2009

Abstract

Given the importance of party people as innovators and early adaptors in the diffusion of substance use, and given the lack of longitudinal scope in studies of the nightlife scene, we explored changes in illicit drug use among young persons participating in nightlife in Flanders.

A survey among party people selected at dance events, rock festivals and in clubs was held in the summer of 2003 and repeated in 2005, 2007 and 2009. In total, 2812 respondents filled in a questionnaire on the use of cannabis, ecstasy, cocaine, amphetamines, GHB and ketamine.

The results of the multiple logistic regression analyses show that in the group of frequent pub visitors, the predicting probability of cannabis use increased over time, while the gap in drug use between dance music lovers and non-lovers of dance music narrowed. For cocaine use during the last year, an increase was found related to the housing situation (alone or with parents) of respondents. While the odds of using ecstasy decreased over the years, the odds of using GHB increased.

We can conclude that monitoring emerging trends, which can be quickly observed in the nightlife scene, provides meaningful information for anticipating possible trends.

4.1 Introduction

Patterns of drug use are dynamic (Riley & Hayward, 2004), or, as McCambridge et al. (2007, p. p. 63) phrased it: “Drug fashions come and go”. A wide range of repeated epidemiological studies on trends in drug use have been published. In Europe, cannabis use seems to have stabilized in some countries (UK and France, for example), but increased in a few others countries (Italy and Slovakia, for example) (EMCDDA, 2010). Some experts have stated that ecstasy and amphetamine use has reached a plateau phase, with use of the latter substance possibly even decreasing (EMCDDA, 2009; Maxwell, 2004; Measham, 2004; OFDT, 2000). When looking at cocaine, different patterns appear in Europe: in some countries with a high prevalence of cocaine use, the increase in use was followed by a stabilisation; in other countries, the prevalence of cocaine use more than doubled but remained relatively low (EMCDDA, 2010). More recently, the use of GHB and ketamine has been reported by dance drug users (Degenhardt, Copeland, & Dillon, 2005; Ramo, Grov, Delucchi, Kelly, & Parsons, 2010). There have been reports from the UK and Australia on an increase in the use and availability of ketamine (Curran & Monaghan, 2001; Degenhardt, et al., 2005; Degenhardt & Dunn, 2008; McCambridge, et al., 2007).
However, most of these studies focused on the general population and might have underestimated the prevalence of drug use because of the under-sampling of hidden populations. To be able to respond to changes in drug patterns in a timely way, research should focus on innovators and early adopters (Rogers, 2003) who can be found in specific settings, such as the nightlife scene. Several authors have stated that music festival goers (Lim, Hellard, Hocking, Spelman, & Aitken, 2010) and dance scene attendees (McCambridge, Mitcheson, Winstock, & Hunt, 2005; McCambridge, et al., 2007) are interesting groups for identifying emerging drug trends. Tossmann and colleagues (Tossmann, Boldt, & Tensil, 2001) investigated the use of psychotropic substances in seven metropolitan cities in Europe (Rome, Berlin,...) among techno party visitors. IREFREA, a leading research network on nightlife in nine European cities (Nice, Palma, Athens,...), has conducted several studies on recreational drug use in nightlife settings. These studies have mapped the use of illegal drugs such as cannabis, ecstasy, amphetamines and cocaine in the nightlife scene and concluded that illicit drug use is relatively widespread. Furthermore, poly drug use is the rule rather than the exception among young substance users during the weekend (Calafat et al., 1999; Calafat et al., 2001). Alcohol and cannabis are the most important substances in patterns of poly substance use, followed by ecstasy, amphetamines and cocaine (Calafat, et al., 1999). These studies are unique for their multi-city approach, but longitudinal studies in nightlife research are rare. To our knowledge, only four studies with a longitudinal scope have been published. In Melbourne, Lim and colleagues (Lim, et al., 2010) concluded that illicit drug use was much more common among music festival attendees than among the general population, but the direction of trends in drug use was similar. McCambridge and colleagues (McCambridge, et al., 2005) observed a reduction in the prevalence of ecstasy use, a stabilisation of cocaine use, and a fluctuation of amphetamine use between falling and rising in the UK. An increase in the lifetime prevalence of GHB and ketamine use was also found (McCambridge, et al., 2007). In 1993, the Bonger Institute launched the Antenna Monitor, which maps illicit drug use among young people in various nightlife settings in Amsterdam. The most recent Antenna Monitor (2010) concluded that cocaine remains popular in certain subgroups, and an increase in the use of ecstasy (after a decline) and amphetamines is observed. The use of GHB in Amsterdam is limited (Benschop, Nabben, & Korf, 2011). Demetrovics and his colleagues (Demetrovics, 2009) carried out three surveys in Budapest in 1998, 1999 and 2003. Although the methodology differentiated over time, it could be concluded that the extent of recreational drug use in Hungarian clubs had increased. Although cannabis is the most widespread drug in Hungarian society, psycho-stimulants tended to be the drug of choice in nightlife settings. Moreover, respondents almost exclusively associated the use of such drugs with dance-music entertainment settings.
Given the lack of longitudinal scope in nightlife research, and given the importance of party people as innovators and early adaptors in the diffusion of substance use, we explored changes in illicit drug use among young people who participate in different nightlife settings in Flanders (the northern region of Belgium) through a bi-annual survey over the years 2003, 2005, 2007 and 2009. By using the same questionnaire and methodology every two years, we were able to look at the effects of time on illicit drug use. It is important to monitor trends to set up appropriate interventions, regardless whether one thinks of prevention, treatment or law enforcement (Agar, 2000). This articles focuses on the most common illegal drugs in the nightlife scene in Flanders: cannabis, ecstasy, cocaine, amphetamines, GHB and ketamine.

4.2 Method

Sample

This survey was administered in the Flemish nightlife scene between 2003 and 2009, using a self-report questionnaire. Each second year, a sample of party people was selected at three clubs, two dance events and two rock festivals in Flanders. These specific events and clubs were chosen because of their scale (to ensure a large enough sample size) and location (regional spread). The most popular clubs and events in Flanders were included in the study. The same locations were involved each year of the survey, with the exception of events that were organized only once. In this case, a comparable event was included with similar characteristics such as music styles, visitor profiles, number of attendees and indoor/outdoor event.

Table 1: Demographic variables over the survey years

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>645</td>
<td>670</td>
<td>775</td>
<td>607</td>
</tr>
<tr>
<td>Age*</td>
<td>22.03 (SD = 5.26)</td>
<td>22.66 (SD = 5.41)</td>
<td>22.69 (SD = 5.86)</td>
<td>22.17 (SD = 5.84)</td>
</tr>
<tr>
<td>Profession*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>51.2%</td>
<td>48.2%</td>
<td>46.4%</td>
<td>49.3%</td>
</tr>
<tr>
<td>Working</td>
<td>48.8%</td>
<td>51.8%</td>
<td>53.6%</td>
<td>50.7%</td>
</tr>
<tr>
<td>Living status*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With parents</td>
<td>33.3%</td>
<td>36.6%</td>
<td>35.0%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Individually</td>
<td>66.7%</td>
<td>63.4%</td>
<td>65.0%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Gender **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64.5%</td>
<td>67.8%</td>
<td>61.8%</td>
<td>55.5%</td>
</tr>
<tr>
<td>Female</td>
<td>35.5%</td>
<td>32.2%</td>
<td>38.2%</td>
<td>44.5%</td>
</tr>
</tbody>
</table>

* not significant
** χ²(3) = 2160, p < .001
At each event, poll-takers asked visitors to participate in this survey over two times a period of one hour. Interviewers selected a spot in the club or at the event where there was enough light and space to fill in the questionnaire (e.g. near toilets in clubs). In order to avoid selection bias, the poll-takers invited every fifth visitor who came by to complete a short questionnaire. They made sure that the questionnaire could be filled in discreetly by ensuring a private space near the interviewer. Informed consent for study participation was asked in the introduction of the questionnaire. Non-Belgian residents (due to the different legal framework concerning cannabis in neighbouring countries like the Netherlands), persons who volunteered to participate in the study and those who had already taken part in the survey that summer were excluded. The chance of recruiting the same attendees at multiple events was very small. According to the poll-takers, visitors who had already been asked to fill out the questionnaire that summer usually reported this. Because the questionnaire was in Dutch, only Dutch-speaking Belgians could participate. Each survey year from 2003 until 2009, between 645 and 775 respondents filled in the questionnaires, with a total of 2812 respondents. Overall, the response rate was 62.9%. In 2003 64.3% of the selected individuals filled in a questionnaire, in 2005 57.7% did so, in 2007 it was 66.2% and in 65.4% it was 2009. No information on gender or other characteristics of non-respondents could be collected. In this survey, we make no claim that the data from any particular year are representative of the wider population.

Procedure

The survey was first administered in July of 2003 and was repeated every two years between July and October. Data were gathered during four survey years: 2003, 2005, 2007 and 2009. Club owners and event organizers gave their permission to recruit participants at the venues. Agreements were made concerning the anonymous reporting of clubs and events. To guarantee anonymity, the respondents were asked to complete the questionnaire on their own, even in cases where they wanted the researchers to help them. The questionnaire was limited to five pages to encourage participation. Filling in the questionnaire took the respondents an average of 10 minutes. No payment or reward was given to the study participants.

All interviewers involved in the data collection were trained prior to the study. Two poll-takers approached visitors in clubs between 1 a.m. and 4 a.m. Before 1 a.m., not enough visitors attended the clubs, whereas after 4 a.m. too many visitors were under the influence of psychoactive substances. At rock festivals, the data were collected by three interviewers between 3 p.m. and 8 p.m., while at dance events this happened between 9 p.m. and 12 p.m.
<table>
<thead>
<tr>
<th>Table 2: Predictors of last year substance use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cannabis</strong></td>
</tr>
<tr>
<td><strong>Survey year</strong></td>
</tr>
<tr>
<td>2003 (ref)</td>
</tr>
<tr>
<td>2005</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td><strong>Interaction between going to the pub and survey year</strong></td>
</tr>
<tr>
<td>Pub x 2003 (ref)</td>
</tr>
<tr>
<td>Pub x 2005</td>
</tr>
<tr>
<td>Pub x 2007</td>
</tr>
<tr>
<td>Pub x 2009</td>
</tr>
<tr>
<td><strong>Interaction between liking dance music and survey year</strong></td>
</tr>
<tr>
<td>Dance music x 2003 (ref)</td>
</tr>
<tr>
<td>Dance music x 2005</td>
</tr>
<tr>
<td>Dance music x 2007</td>
</tr>
<tr>
<td>Dance music x 2009</td>
</tr>
<tr>
<td><strong>Interaction between going to clubs and survey year</strong></td>
</tr>
<tr>
<td>Clubs x 2003 (ref)</td>
</tr>
<tr>
<td>Clubs x 2005</td>
</tr>
<tr>
<td>Clubs x 2007</td>
</tr>
<tr>
<td>Clubs x 2009</td>
</tr>
<tr>
<td><strong>Interaction between going to festivals and survey year</strong></td>
</tr>
<tr>
<td>Festivals x 2003 (ref)</td>
</tr>
<tr>
<td>Festivals x 2005</td>
</tr>
<tr>
<td>Festivals x 2007</td>
</tr>
<tr>
<td>Festivals x 2009</td>
</tr>
<tr>
<td><strong>Xtc</strong></td>
</tr>
<tr>
<td><strong>Survey year</strong></td>
</tr>
<tr>
<td>2003 (ref)</td>
</tr>
<tr>
<td>2005</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td><strong>Interaction between going to the pub and survey year</strong></td>
</tr>
<tr>
<td>Pub x 2003 (ref)</td>
</tr>
<tr>
<td>Pub x 2005</td>
</tr>
<tr>
<td>Pub x 2007</td>
</tr>
<tr>
<td>Pub x 2009</td>
</tr>
<tr>
<td><strong>Interaction between liking dance music and survey year</strong></td>
</tr>
<tr>
<td>Dance music x 2003 (ref)</td>
</tr>
<tr>
<td>Dance music x 2005</td>
</tr>
<tr>
<td>Dance music x 2007</td>
</tr>
<tr>
<td>Dance music x 2009</td>
</tr>
</tbody>
</table>
Illicit drug use in the Flemish nightlife scene between 2003 and 2009

<table>
<thead>
<tr>
<th></th>
<th>AOR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003 (ref)</td>
<td>1.00</td>
<td>0.51, 1.70</td>
<td>0.800</td>
</tr>
<tr>
<td>2005</td>
<td>0.93</td>
<td>0.51, 1.70</td>
<td>0.400</td>
</tr>
<tr>
<td>2007</td>
<td>0.77</td>
<td>0.43, 1.41</td>
<td>0.109</td>
</tr>
<tr>
<td>2009</td>
<td>1.64</td>
<td>0.90, 3.03</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction between living status and survey year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living on their own x 2003 (ref)</td>
<td>1.00</td>
<td>0.46, 2.56</td>
<td>0.847</td>
</tr>
<tr>
<td>Living on their own x 2005</td>
<td>1.09</td>
<td>0.46, 2.56</td>
<td>0.024</td>
</tr>
<tr>
<td>Living on their own x 2007</td>
<td>2.51</td>
<td>1.13, 5.63</td>
<td>0.727</td>
</tr>
<tr>
<td>Living on their own x 2009</td>
<td>0.86</td>
<td>0.36, 2.03</td>
<td>0.040</td>
</tr>
</tbody>
</table>

| Amphetamines |     |              |         |
| Survey year  |     |              |         |
| 2003 (ref)   | 1.00| 0.42, 1.09   | 0.108   |
| 2005         | 0.68| 0.36, 1.09   | 0.444   |
| 2007         | 0.84| 0.55, 1.31   | 0.306   |
| 2009         | 0.77| 0.46, 1.27   | 0.011   |

| GHB          |     |              |         |
| Survey year  |     |              |         |
| 2003 (ref)   | 1.00| 0.15, 1.45   | 0.212   |
| 2005         | 0.49| 0.15, 1.45   | 0.143   |
| 2007         | 1.82| 0.84, 4.27   | 0.110   |
| 2009         | 2.05| 0.86, 5.11   | 0.040   |

| Ketamine     |     |              |         |
| Survey year  |     |              |         |
| 2003 (ref)   | 1.00| 0.52, 9.72   | 0.330   |
| 2005         | 2.01| 0.52, 9.72   | 0.148   |
| 2007         | 2.66| 0.78, 12.13  | 0.040   |
| 2009         | 4.24| 1.17, 20.12  | 0.040   |

Instrument

The questionnaire primarily consisted of multiple-choice questions; it also included two open-ended questions. The first section of the questionnaire included relevant demographic information (age, gender, profession, living status, sexual identity) (Calafat, et al., 1999). The second section focused on patterns of going out (favourite music, setting, frequency) (Winstock, Griffiths, & Stewart, 2001). Eighteen music styles were listed in the questionnaire and the respondents cited their favourite music style(s) (no limitation was imposed on possible answers). Categories for music preferences were based on an Internet search of relevant websites and were approved during an expert meeting of prevention workers and nightlife professionals. Another question
referred to the nightlife settings that had been visited during the last 30 days (e.g. pubs, clubs, goa parties). The third part assessed the (frequency of) substance use (Tossmann, et al., 2001; Winstock, et al., 2001). Seven categories for the frequency of drug use were distinguished: 1) never used this drug; 2) have used, but not in the last year; 3) once a month or less; 4) several times a month; 5) once a week; 6) several times a week; and 7) daily. The fourth section was intended only for people who had used illegal substances within the last year and consisted of questions on the context of substance use: when and with whom they used (patterns of use), and where and when they bought their drugs (Riley, James, Gregory, Dingle, & Cadger, 2001). The fifth part focused on combined substance use (frequency and substances) (Riley, et al., 2001). Each respondent was also asked to complete the sixth section on preventive health measures regarding substance use (Hacourt, 2002). The last section of the questionnaire consisted of open-ended questions on emerging trends in (patterns of) drug use.

Data analysis

To test the reliability of the respondents’ answers, an imaginary substance (NTSC) was added to the list of substances. Respondents who reported NTSC use were excluded from the analyses, as their answers were deemed not reliable (= overall 4.01%). Ultimately, this article reports on findings among the remaining 2697 respondents recruited in 2003, 2005, 2007 and 2009 (Table 1). For investigating differences concerning survey years and demographic variables, we used chi-square tests for non-continuous variables (profession, living status and gender) and ANOVA for assessing age differences.

To examine trends in substance use, six separate models were built using multiple logistic regressions. In each of these models, the last-year (yes/no) use of cannabis, ecstasy, cocaine, amphetamine, GHB or ketamine served as dependent variables. The following independent variables were entered into the model in a stepwise way (both forward and backward): last month frequency of going to pubs, clubs, concerts, festivals, youth clubs and mainstream parties; profession; living status; and preference for rock music, dance music and southern music. We chose to enter survey year, gender and age as fixed factors in each of the models because they were central to the purposes of this study.

Initially, all models were built allowing second-order interactions between all variables. However, for GHB, amphetamines and ketamine, this was not possible because of the lack of data in certain cell combinations. Therefore, the stepwise selection procedure for these three substances was narrowed to the main effects only. Since we were mainly interested in trends over the years, the focus of the results was on the variable year and its interactions. Consequently, we limited the table of the multiple logistic regression
analyses to the variable survey year and its interactions, although the analyses revealed more results than are discussed in the results section (Table 2).

All analyses were performed using the statistical software program R, version 2.12 (R Development Core Team, 2010). To ease the interpretation of higher-order effects, we also produced one figure of predicted probabilities using the “effects” package (Fox, 2003). In this package, the predicted probabilities are computed for some “interesting” values of the other predictors. In fact, for the continuous predictors the mean is used, whereas for categorical predictors the observed proportions are used. The goodness of fit of the logistic regression models was verified using the Hosmer-Lemeshow test (Hosmer & Lemeshow, 2000). The level of statistical significance was set at $\alpha = 0.05$.

4.3 Results

Demographic and drug use characteristics

No significant differences were found between the survey years (2003, 2005, 2007, 2009) in terms of age ($F(3, 2462) = 2.23, p = 0.083$), profession ($\chi^2(3) = 3.17, p = 0.366$) or living status ($\chi^2(3) = 1.59, p = 0.661$) (Table 1). A difference was found regarding gender across the four samples ($\chi^2(3) = 21.60, p < .001$): looking at the gender proportions, it appeared that increasing numbers of women participated in the survey on drugs and nightlife over the years (Table 1). Consequently, we can conclude that, with the exception of gender, the groups of respondents were comparable over the years regarding these demographic variables.

![Figure 1: Last year drug use by and over survey years](image)

Across the four survey years, the most commonly used illegal drug was cannabis (43.1%). Its prevalence has always been much higher than for other substances, including popular party drugs like ecstasy (16.1%), cocaine (13.4%) and amphetamines (8.2%). In the last survey year (2009), it was noted that cocaine had switched places with
ecstasy to become the second most commonly used drug. Of all drugs, GHB (3.0%) and ketamine (1.9%) were the least commonly used drugs in the nightlife scene (Figure 1).

Effects of time

Cannabis
No significant main effect of survey year was found on the use of cannabis in the last year, but there were some clear trends in its interactions. First, an interaction was found between pub attendance frequency and survey year (LRT $\chi^2(3): 15.82, p < 0.01$). Over the years, the relation between pub attendance frequency and cannabis use became stronger and more positive (Figure 2). Second, an interaction effect was observed between festival attendance frequency and survey year (LRT $\chi^2(3): 8.15, p = 0.04$). However, there was no clear interpretable pattern in this fluctuation (Table 2). Third, an interaction between self-reported dance music preference and survey year was also found (LRT $\chi^2(3): 11.63, p < 0.01$). Overall, the odds of having used cannabis during the last year were 2.97 times higher for dance music lovers compared to non-dance music lovers (95% CI: [1.73, 5.21], $p < 0.01$). However, the interaction with survey year means that in terms of the predicted probability of cannabis use in the last year, the difference between votaries and non-votaries of dance music decreased over the years.

Ecstasy
A significant association was observed between survey year and the use of ecstasy (LRT $\chi^2(3): 9.92, p = 0.02$): on average, the odds of having used ecstasy in the last year compared to 2003 decreased over the years, especially in 2005 and 2009 (Table 2).

Cocaine
No significant main effect of survey year was found on the use of cocaine in the last year, but an interaction was found between survey year and housing situation (LRT $\chi^2(3): 4.49, p = 0.03$). For the respondents who lived independently (with a partner or alone), as well as for those who lived with their parents, a sudden increase was observed in the predicted probability of cocaine use in the last year in comparison to 2003. However, this sudden increase occurred two years earlier for the respondents who lived independently (2007) compared to the respondents who lived with their parents (2009) (Table 2).

Amphetamines, GHB and ketamine
For reasons mentioned previously, the stepwise selection procedure for GHB, ketamine and amphetamines was narrowed to main effects only (Table 2). The results of amphetamine and ketamine use in the last year showed no significant evolution over the years (LRT $\chi^2(3): 2.76, p = 0.43$ and LRT $\chi^2(3): 5.14, p = 0.16$, respectively). For GHB, the results indicate that, while the odds of having used GHB in the last year were low, on average they increased over the years in comparison to 2003 (LRT $\chi^2(3): 11.17, p = 0.01$).
4.4 Discussion

Although clubbers and visitors of music festivals and events are often difficult to reach for research, we were able to recruit nearly 3000 respondents at festivals, dance events and clubs. Belgium offers an excellent opportunity for focusing on several different nightlife scenes, since it is known for its variety of music styles and venues and it has several large music events. Based on our analysis of the evolution of illicit drug use over a seven-year period (2003-2009) in Flanders (Belgium), we can conclude that the use of most illegal substances are changing over time. Consequently, health promotion and drug prevention initiatives need to proactively anticipate shifts in drug use (Riley & Hayward, 2004).

Figure 2: Evolution in the use of cannabis over time and frequency of pub attendance

Before discussing the most important results, it is necessary to look at the limitations of this study. Second, this study was not representative of party people in Belgium. A more appropriate method for studying party people would be to conduct a survey during an entire year at various venues. In addition, the use of online surveys would allow researchers to reach more respondents, although this could raise other methodological issues, such as the problem of double counting or questions about the representativeness of the study sample. Furthermore, an online survey might attract
people interested in drug use and induce sampling bias. Our experience with face-to-face selection showed that people who did not want to participate at first changed their minds when given more information. Several authors have shown that, even in party environments, questionnaires can be used as reliable tools for assessment (Ter Bogt & Engels, 2005; van de Wijngaart et al., 1999). Though poll-takers could not guarantee that the respondents were not under the influence of a substance when they filled out the survey, making informed consent disputable, individuals who showed clearly observable symptoms of intoxication were excluded from the study.

In this study of the nightlife scene in Flanders, we were able to keep the sampling procedure, locations and questionnaire (almost) identical over the survey years, enabling us to look at the effect of time on illicit drug use. Ecstasy was the only drug in this study that showed a decreasing trend in use, as confirmed by international data (EMCDDA, 2009). Measham (2004) argued that ecstasy pills were undergoing a shift from their sub cultural iconic status as the “cultural signifier of a generation” to a cheeky supplement to a night’s drinking. This does not mean per se that the quantity of ecstasy consumed by users also diminished. Although McCambridge et al. (2005) confirmed the trend of reduced use of ecstasy, they also found evidence of patterns of higher consumption (number of pills) among current users. Prevention projects should especially target ecstasy users who use excessively and/or are taking these pills in combination with other drugs, thus displaying specific risk behaviour.

The odds of using cocaine increased with each survey year, which could indicate that it is becoming more widespread. Golub and colleagues (2005) call this the expansion phase: pioneering drug users successfully introduce the practice to wider groups of users and to the broader population. This could be due to the increase in availability and the decrease in the price of cocaine, making the drug more easily attainable (Decorte & Slock, 2005; Riley & Hayward, 2004). Regarding last-year substance use, it seems that cocaine switched places with ecstasy. Prevention initiatives should focus on those who are not (yet) using these drugs, but their widespread use also confirms the need for harm reduction projects in the nightlife scene, for example, peer support projects or information campaigns on possible risks (e.g. risks of combining alcohol and cocaine) for party people who are already using these substances.

Last-year cannabis use showed an increase over the years in the group of non-dance music lovers and in the group of respondents who visited pubs more frequently. The odds of cannabis use last year for non-dance music lovers almost reached the level of the dance music lovers. According to Golub’s phases, these are characteristics of the plateau phase (Golub, et al., 2005, p. 222) or, as Nabben (Nabben, 2010) calls it, “use by the mainstream group”, in which everyone at risk of using the new drug practice has either initiated its use or at least had the opportunity to try it.
Music festivals may be important arenas for trying to prevent the onset of cannabis use (Hesse, Tutenges, & Schliewe, 2010).

An increase in the use of GHB was detected over the four survey years. Although the last-year use of this drug was still marginal, in the most recent survey (3.1%) the frequency of use (almost) doubled in comparison with the first survey year. Also, in the UK, the use of GHB increased in a sample of dance drug users over a five-year period (McCambridge, et al., 2007). According to the phases of Golub and colleagues (2005), it seems that GHB is in the incubation phase, in which a limited subpopulation, like the dance club scene, uses this substance. Its use seems to be limited to a group of trend setters, and its increased use could include trend followers as well (Nabben, 2010). The question is whether the use of GHB will become more widespread. The use of GHB should be closely monitored (Benschop, et al., 2011) given its potential for overdose and other harmful consequences (McCambridge, et al., 2007). GHB overdose has been reported more frequently than for any other dance drug, especially when combined with alcohol (Kim, Anderson, Dyer, Barker, & Blanc, 2007). Prevention messages should include information on the use of GHB, especially in combination with alcohol, as this combination may induce depressed breathing and unconsciousness.

Since the late eighties, cocaine and ecstasy have slowly pushed amphetamines into the background of the nightlife scene. However, the use of amphetamines in the nightlife scene did not change over the years in the present study. This was confirmed in a recent report of the EMCDDA (2009), which supports these data. Some subgroups in the party scene are attracted to this drug (Nabben, 2010) and, according to Measham (2004), we should not be surprised if a reduction in one form of psychoactive consumption is accompanied by an upsurge in another. Other new drugs such as mephedrone, which could be legally obtained until April 2010 and is cheap, should be watched closely. A panel study on new trends in drug use in Amsterdam (Antenna) concluded that mephedrone will not be able to replace the effects of ecstasy (Benschop, et al., 2011). New drugs with aversive effects (e.g. ketamine) are unlikely to be used widely (EMCDDA, 2002).

Subcultures, particularly drug subcultures, undergo continuous change, not just in terms of the shifting prevalence of substance use over time but also in venues, symbolic meanings, conduct norms and behavioural patterns (Golub, et al., 2005). Due to new technologies (e.g. the Internet) and social evolutions (for example, young people on holiday in typical nightlife resorts such as Ibiza are sometimes recruited into using substances they have not used before (Bellis, Hughes, Bennett, & Thomson, 2003)), drug fashions could change more rapidly than every two years. A bi-annual survey may fall behind when it comes to anticipating new trends, and therefore this survey was complemented with qualitative interviews with key stakeholders in the nightlife scene every second year. Sensitive tools for monitoring trends in drug use and insights are an
essential part of understanding trends (Agar, 2000). Finally, the conversion of variables to a statistical representation does not enable us to understand why these shifts in drug use are being seen, but the changes and evolutions seen in the prevalence of illicit drugs enable health promotion and drug prevention initiatives to anticipate possible trends and provide relevant information to possible user groups.
References


EMCDDA (2010). 2010 Annual report on the state of the drugs problem in Europe. Lisbon: EMCDDA.


OFDT (2000). *Tendances nr. 7: Recent trends relating to psychoactive substances use and synthetic substances components*: OFDT.


Chapter 5

Keep an eye on your friends, even when you don’t know them

Freedom and solidarity in the goa scene.

¹ Based on Van Havere, T., De Maeyer, J., Broekaert, E., & Vanderplasschen, W. (in review). “Keep an eye on your friends, even when you don’t know them.” Freedom and solidarity in the goa scene. Adicciones.
Abstract

Some music styles are associated with the use of illegal drugs. An even stronger association can be found with more alternative, underground music styles like goa trance. The high prevalence of drug use in this scene leads to the question whether these party people face problems and how they manage to keep out of problems. Therefore, information was collected on the role of drug use in this scene by conducting in-depth interviews with goa visitors who had experience with the use of illegal drugs (n=19). Their insiders’ perspectives revealed that using and combining (psychedelic) drugs is highly tolerated by visitors, although narrowing the goa scene to drug use is not correct. Shared values like freedom and solidarity are still part of this scene, which is inspired by the former hippie culture. The high tolerance and open communication make the goa scene a ‘safe’ environment for experimenting. Although drug use by most party visitors is evident, few acute problems are seen by the respondents. However, all mention long-term negative consequences of frequent drug use. Prevention and harm reduction initiatives should be based on insiders’ stories and the communal values of the goa scene can help to minimise risks among drug users.

5.1 Introduction

Music is an important aspect of youth culture and it is well documented that some music styles are positively associated with the use of illegal drugs (Mulder et al., 2009). In the last decades, the focus was on general electronic dance music (EDM) and the use of stimulant drugs (Adlaf & Smart, 1997; Forsyth, Barnard, & McKeganey, 1997; Ter Bogt & Engels, 2005), although a stronger association can be found between substance use and some alternative, elitist or underground music styles in the electronic music scene (Anderson, 2006; Moore & Miles, 2004; Mulder, et al., 2009). For example, research and anecdotal information from Belgium has illustrated that, in particular, goa trance or psytrance is associated with higher frequencies of substance use (Van der Elst, 2009; Van Havere, De Donder, Geirnaert, & Schrooten, 2008; Van Havere, Vanderplasschen, Lammertyn, Broekaert, & Bellis, 2011). This music style and the surrounding scene (goa scene) is not only well-known in Belgium, but also in Portugal (e.g. the famous Boom Festival), Spain, the United Kingdom, Germany and some other European countries. More globally, Israel and Thailand have big trance festivals and some famous psytrance DJs originate from these countries.

The goa scene grew from the psychedelic hippie cultures of the 1960s and 1970s, which originated in the state of Goa in India (Saldhana, 2006). Initially, psychedelic rock music was played at the first goa parties, but under international influences EDM reached Goa in the 1980s and DJs started to play a mix of American, British and Belgian dance music at outdoor parties (Greener & Hollands, 2006). The parties
developed from camp fire parties to ‘Full Moon’ parties, where DJs played until the next morning (or the whole weekend). During the 1990s, psytrance spread over the world and an international goa scene was developed (Yates, 1999). Today, the music has evolved and various subgenres are distinguished in this scene (e.g. old school and full on). The original goa scene echoed some of the ‘Back to the nature’, ‘Earth mother’ preoccupations of the 1960s (Yates, 1999), and was influenced by the hippie culture: goa parties were announced in homemade pamphlets and uniquely illustrated psychedelic posters, entrance fees were kept low, fluorescent party decorations were used, visitors wore specific (and colourful) clothing, most (illegal) parties were held outdoor close to nature and psychedelic drugs (especially LSD) were taken for self-exploration. Important values in the goa scene are respect and open-mindedness. The values of this scene are referred to as PLUR: Peace, Love, Unity and Respect (Van der Elst, 2009; Van Havere, et al., 2008). Furthermore, one of the founders of goa trance music, Goa Gil, remarked that goa parties are like an ancient tribal ritual of the 21st century (McAteer, 2002). Psytrance assists dancers to experience a collective state of bodily transcendence, similar to that of ancient shamanic dancing rituals, by means of hypnotic, pulsing melodies and rhythms (Saldhana, 2006). All these characteristics contribute to a global psychedelic experience.

A recent nightlife survey in Belgium demonstrated that 8 out of 10 goa partygoers had used at least one illegal drug (including cannabis) during the past year and they were 5 to 20 times more likely to be users of illegal drugs than non-goa party visitors (Van Havere, et al., 2008; Van Havere, et al., 2011). As mentioned previously, psychedelic drugs are mainly being used in this sub-scene and the combined use of drugs (e.g. xtc and LSD) is also very common (Van der Elst, 2009; Van Havere, et al., 2008). The high prevalence of drug leads to question whether goa party people face health or social problems and how they manage to keep out of problems. More information on the preventive measures that these persons take may help to identify potential pathways for targeted interventions, in order to reduce drug-related harm among at-risk groups such as those involved in the goa scene.

Given the important influence of Belgian dance music on goa trance and the clear presence of this scene in Belgium (first underground, now more regulated), Belgium is an interesting country to explore certain habits and practices. Since the goa scene is self-regulating and difficult to understand for outsiders (Warson, 2007), in-depth research is needed on the role of drug use in the goa scene and on the personal perspectives of persons who use drugs. Therefore, a qualitative study by means of in-depth interviews was set up to explore the role of illegal drug use in the goa scene and to identify preventive measures party goers take to minimise the harm of drugs.
5.2 Method

Human motives, social interactions and beliefs are often too complex to study based on quantitative research, but rather require more empathic, interpretative understanding (Broekaert, Autrique, Vanderplasschen, & Colpaert, 2010). However, studies on the phenomena of drug use predominantly disregard the voice of drug users’ themselves (Moro, Simon, Bard, & Racz, 2011). Since hidden populations like party people without a treatment demand are often difficult to reach, qualitative research was used to generate valuable information on this ‘hard-to-reach’ population (Neale, Allen, & Coombes, 2005).

Sample

The study was targeted at attendees of goa parties. In order to be included in the study, respondents had to be Dutch speaking with experience of illegal drugs (as users themselves or based on the drug use of their close friends). The goal was to interview all respondents individually, but one respondent had invited two friends on his own initiative. Consequently, one interview was administered with three persons, instead of a single person. In total, 17 interviews with 19 participants were conducted. The sample consisted of 17 male and two female respondents and the mean age was around 25 years (25,4). Most of the respondents had a paid job (cf. Table 1) and were recruited in various regions in Flanders (Belgium). Only two respondents said they did not use any illegal drugs at the moment. All other respondents used various illegal drugs.

<table>
<thead>
<tr>
<th>Table 1: Main characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender*</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Occupation</td>
</tr>
<tr>
<td>Paid job</td>
</tr>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Unemployed</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>18-21</td>
</tr>
<tr>
<td>22-25</td>
</tr>
<tr>
<td>26-29</td>
</tr>
<tr>
<td>30-33</td>
</tr>
</tbody>
</table>
Procedure

Interviews were conducted by the first author (TVH) and a last-year student in educational sciences as part of her Master’s thesis (Oomen, 2011). Both researchers visited at least one goa party prior to the interviews to gain minimum experience of this ‘hidden’ scene. Observations and first impressions were registered and seemed very valuable when conducting and analysing the interviews. This experience did not only increase the researchers’ understanding of the characteristics of this alternative scene, but respondents also appreciated our genuine interest.

To recruit respondents among this hidden population, a purposive sample of goa party visitors was recruited (Decorte, 2001; Decorte & Zaitch, 2009; Vervaeke, Korf, Benschop, & van den Brink, 2007). Two respondents involved in peer support organisations were used as the starting point of the referral chain (zero-stage respondents). Then, snowball sampling was used to further recruit participants. The researchers invited the nominated subjects by email to participate in the study. When individuals were interested in the study, more information was given on the aims and research method. After we obtained informed consent, interviews were conducted in a place chosen in consultation with the participants (e.g. in their home, a public place). Interviews lasted between 60 and 130 minutes and were administered between August 2010 and March 2011. After the interviews, almost all respondents showed interest in being kept informed of the study results. Individuals received no payment for their participation, which was entirely voluntary, and confidentiality was assured.

In-depth semi-structured interviews were conducted following a topic guide (Patton, 2002) based on available literature (Van der Elst, 2009) and former interviews with key figures of this scene (Van Havere, et al., 2008). The areas focused on were demographic data, experience with goa-parties, drug use at these parties, possible problems related to drug use and prevention measures taken. To enhance the quality of the interviews, role play was used to practise interview techniques and to become familiar with the topic guide. Interviews were conducted until theoretical saturation was attained (Decorte & Zaitch, 2009).

Data-analysis

All interviews were audio-taped and transcribed verbatim. The software programme NVivo 9 (QSR-international, 2010) was used to analyse the data in order to identify the most important themes discussed by the participants. Using NVivo increases the validity and reliability of the study (Zapata-Sepulveda, Lopez-Sanchez, & Sanchez-Gomez, 2012). For the analysis, grounded theory was used, which is designed to develop a well-integrated set of concepts and to generate systematically theories from the data (Corbin & Strauss, 1990).
In a first phase, both researchers read the transcripts several times to get acquainted with the data (naïve understanding) (Lindseth & Norberg, 2004). This phase provided the researchers with ideas and a first impression of the content for the second phase, the coding of the transcripts. In this second phase, open coding was performed (Decorte & Zaitch, 2009). The analysis started with some sensitising concepts, which the researchers derived from former interviews with those involved in the goa scene (Van Havere, et al., 2008) and from the literature (Van der Elst, 2009; Warson, 2007). These were put together in advance and gave a first categorisation (e.g. important norms in the scene, elements of the hippie culture). Next, the student coded the text segments by identifying important meaningful units (phase 2, e.g. the presence of drugs, drug use policies at parties) and divided these units into dominant themes and subthemes (phase 3, e.g. combined use of drugs, harm reduction initiatives, repression). This last step is called ‘axial coding’, in which categories are linked to their subcategories and these relationships are tested against the data (Corbin & Strauss, 1990). Afterwards, the first author of this manuscript reviewed the emerging themes to ensure external validation of the data analysis. Looking at the concepts, new categories were built which are the cornerstones of developing theories. During the data analysis process, memos concerning potential hypotheses were written down to stimulate theory development.

5.3 Results

Respondents’ experiences with goa parties

Most of the respondents visited their first goa party after an invitation from friends. Some had already listened to psy trance music. Others were first introduced to this music at an actual party. With a few exceptions, the respondents were first introduced to a goa party at the age of between 16 and 18 years. Most had already experienced this scene for a number of years. The frequency of going to parties differed between the respondents. Some looked for a goa party every one or two weeks, while others only went to the bigger festivals in summer. One person went every year for six months to Thailand to enjoy the goa parties in their original form. Older respondents had evolved from very frequent visitors to less frequent visitors. Getting older, having more responsibilities and the changing scene were the most frequently mentioned reasons to cut back on going to goa parties.
Evolutions of the goa scene

Most respondents see a clear evolution in the scene and make a distinction between former and current days. Former parties were smaller (less people, smaller locations) and participants had the feeling that “everybody knew everybody”. Parties were limited to a few per month, mostly organised illegally (on illegal locations without consent of the local authorities) and only friends and friends of friends were invited. Sometimes respondents refer to visitors of goa parties as friends or one big family, although they might not really know them.

Given their illegal character, respondents state that in the past the police often shut down these parties. To avoid this, most party organisers nowadays ask permission of the local authorities. As a consequence, goa parties seem to be more commercialised and this has an influence on their atmosphere according to the respondents. More parties are organised every weekend, which makes the scene increasingly popular and attracts more people, including younger partygoers. Such change means that there is more anonymity and individualism, which in turn has further consequences (cf. the changing role of drug use). Some respondents point out that it is even difficult these days to talk about ‘the goa scene’.

“Now you have more big parties, more formally organised. Five years ago, you received a telephone: “Tonight party, come and bring your CDs and let’s go wild”. Often, this meant two days partying. Nowadays, you’re preparing for two or three months. You have to have a live act. When the party is further away, you have to make the line-up very attractive. They have become more choosy. It’s much more moaning and complaining. They all want more, but it cannot cost anything.” (Man, 25 years old)

The role of drugs in the goa scene

All respondents agree on the importance of drug use among those involved in the goa scene, but they do not agree that this is its only defining feature.

Interviewer: “Are drugs important in the goa scene?” Respondent: (thinks before answering) “Ideally, no. But in reality, yes, it cannot be without each other. These are interconnected. (...) I don’t want to say that it equals for a 100%, but it tends to go that way”. (Woman, 32 years old)

Some respondents also state that in other sub scenes of EDM (e.g. core, dub step), there is an increased chance of coming across drug use. However, a more varied offer of illegal drugs is seen at goa parties. Because of the desire to create a psychedelic experience, drugs like LSD can be found more often at goa parties. Also, the use of less common hallucinogens is mentioned, e.g. ayahuasca and mescaline.
“If you take LSD, you are a lot more wasted than with other drugs. This leads to stranger situations than at other parties where a lot of drugs are taken. (...) At a goa, you will see people acting very strangely, because the LSD and the music take you into trance. (...) With one trip of LSD, you have enough to be wasted the whole evening. (...) But it is indeed a stigma that is connected to goa. Not entirely undeserved, but not entirely deserved either.” (Man, 20 years)

Other typical patterns of drug use, party drugs (e.g. xtc) and combined drug use (e.g. MDMA and LSD) are very common. Alcohol is also available at goa parties (especially cheap beer), but it is of less importance than illegal drugs.

The freedom to use drugs

According to the respondents, the parties are characterised by a freedom to use illegal drugs. Some respondents and their friends are into drug use, no matter what party they go to (goa, minimal, dub step, etc.). They are looking for ‘kicks’ and find it in their own drug use. This group tends to step away from original values of the goa scene, like spiritualism. For them, it is more about the music and going to goa parties represents escapism. Our findings show a bigger gap between these persons’ life during the week and the weekend.

“For me, going out is my lifestyle. Not only goa, but going out, every weekend. So every weekend: ... “Yes, it is weekend again. What shall we do this weekend?”. I used to take drugs every weekend. When the weekend started on Friday, I started taking speed, and then I would see where I ended up.” (Man, 24 years)

Respondents belonging more to the goa music scene (mostly the older ones) conclude that younger and new visitors view goa parties as a drug paradise, an excuse to use drugs. This is in contrast with the function the older goa generation attributes to their drug use; they use the drugs to take a trip down their consciousness and to develop further. According to these respondents, drug use helps them to understand their own fears and experiences. For them, it is more a choice of lifestyle, in which psychedelic experiences and spiritualism have an important role.

“That is one of the unfortunate things, that people don’t live anymore according to the idea, the principle that we had to make the world a better place by starting with ourselves. Giving a good example to everyone (...). For a lot of people, it has become a ‘normal’ party. (...) The music is still there, but the reason to party has changed for the young people. (...) I’m starting to see that – for the younger generation - it is a sanctuary for using as much drugs as possible.” (Man, 31 years)
Problems related to drug use

According to the respondents, few serious health and social problems are observed among Goa visitors. They base this opinion on the few times they have seen an ambulance at Goa parties. However, acute problems and long-term consequences of drug use are sometimes observed. Young and inexperienced people are especially mentioned when talking about excessive use and related problems (e.g. feeling poorly, overdose) at parties. Physical problems like overheating or psychological problems like a bad trip are linked to the event itself, but seldom occur. According to the respondents, there is a higher chance of seeing these kinds of problems at more ‘mainstream’ events, where you can find many occasional users in contrast with Goa parties where you find more experienced drug users.

“And if there are people who get into trouble or take too much, mostly these are people who come to Goa only once in a while, or for the first time and think: ‘You can use a lot of drugs at these parties and nobody is saying anything’. And they use too much and then it goes wrong.” (Man, 22 years)

Longer-term adverse consequences are sometimes seen among experienced users. Regular users expose themselves not only to the direct risks of substance use and its lasting effects during the week (feeling depressive, being tired), but also to the risk of dependence, various psychiatric disorders (e.g. psychosis, anxiety) and physical health problems (e.g. heart problems). Every respondent knew stories about attendees of Goa parties who had been admitted to a psychiatric ward or detoxification centre. Some respondents had to decrease their drug use themselves or even had to stop using certain drugs because of the long-term side effects.

Preventive measures

Open communication.

One of the respondents suggested that the Goa parties are “safe” environments to experiment and use drugs because of the open communication. Some also argued that other drug users can provide much information on the use of various drugs. This knowledge and experience is shared among friends and visitors to Goa parties. They advise on how to avoid harming themselves and share information on new substances, as well as the content of drugs sold. Instructions are also given on how to use drugs safely. Moreover, when asked how potential risks are decreased, respondents state that Goa visitors talk about drug use openly, share drugs and tell their friends what they are taking instead of being secretive.
“In my friends’ network, everybody knew very well what he was doing. Things were looked up and were talked about. (...) Yes, I think I have most information from friends. Because we talked a lot about it and things were said: ‘You shouldn’t do that’, ‘It’s better to share this’ or ‘Take a little bit of that one’. (Woman, 25 years)

Returning to goa parties after quitting drug use appears to be very hard. The seduction of using again is very difficult to resist because drugs are used openly and frequently. Telling your friends that you stopped using in order for them to support you is a suggestion made by one respondent.

“A disadvantage of drug use in the goa scene? ... Yes and no. Sometimes it is too easy. If you’re addicted, it is too easy to get drugs. If you’re not surrounded by good friends, then it is hard to resist.” (Man, 22 years old)

In the context of open communication, peer support was mentioned by four respondents, not only in terms of peer support, but also as a method of informal contact with other visitors and friends. Other suggestions like pill testing and additional information on new substances could prevent users from possible harm.

Solidarity.
According to the respondents, taking care of each other is another important preventive measure in the goa scene, although evolution towards greater individualism is noted. When someone is not feeling well, bystanders will provide aid if necessary, even if they do not know the person. Almost every respondent could tell a story in which other visitors were helping drug users in trouble (e.g. bad trip). As most of them are experienced drug users, they know how to intervene.

“[The values] are still present. It is remarkable at the festivals where I am going to: when something happens, doesn’t matter what, there’ll always be someone – even if they don’t know you – there will be someone for a moment to check whether you’re all right. Yes, I find that amazing” (Man, 31 years)

Moreover, when individuals are crossing their boundaries by using too much drugs or too frequently, the social environment will point it out, not necessarily at the party itself, but also outside the party context. As a consequence of this social control and taking care of each other, short interventions are possible which prevent the escalation of the problems.

“I think the social control – between quotation marks because nobody will say something because you’re taking drugs – but they will keep an eye on you that you don’t take too much or the wrong things”. (Man, 22 years)
Other preventive measures. Respondents state that most drug users are responsible; given their experience with using and combining drugs, they know their limits. This includes assessing when it is better not to use drugs due to their own emotional state, knowing when to stop or reduce using at a party, listening to their body and not panicking.

“Mostly they do [use responsibly]. Especially those people who visit goa for a long time and who know a lot of people. They probably experienced don’t do that’ or ‘don’t take too much of that’; or they already saw people becoming unwell and then know that you can become unwell of that substance.” (Man, 22 years)

According to the respondents, most visitors will bring their own drugs to the party. In this way, they know what they are taking and minimise possible risks. When offered illegal drugs at the party they might accept, when they know the person. Sometimes these are friends who wish to share. When offered a new drug or an unknown drug, they might consider using it if they have more information about the experiences of others or know the person who is offering. One respondent noted that it is the dealer’s task to know what he is selling.

For some respondents, it is important to keep drug use limited to the weekends. However, not everyone can keep to this limit. Weekly responsibilities (school, work) should not be influenced by their drug consumption during the weekend. It seems difficult for respondents to find a good balance between work during the week and partying the whole weekend.

“You have to give drug use a place and keep a good balance. Keep on functioning. Make sure your daily life doesn’t suffer from your drug use.” (Woman, 32 years)

Finally, the legal organisation of goa parties has not resulted in bad experiences with the police or other official authorities. On the contrary, several respondents have positive stories about cooperation with the police and the formal organisation of parties has led to more attention to first aid (services) at parties.

“On the other hand, every time we work together with the police, we never had problems. They know us by now, so no problem. (…) In the beginning, they sometimes came by, but not anymore. Or they drive down the parking place and ask: ‘is everything all right?’ So, we have a good cooperation with the police.” (Man, 28 years)
5.4 Discussion

This qualitative study based on in-depth interviews with 19 goa-visitors provides insight into the role of drug use in the goa scene, an alternative sub scene of EDM. Because the goa scene is difficult to enter and to understand for outsiders, it is important to explore the stories of the party visitors themselves. Furthermore, this group was hard to reach because of the (originally) illegal status of goa parties and associated drug use and the fact that these persons do not have contact with treatment services. It was difficult to reach a large sample, but we managed to find 19 respondents willing to participate.

The study shows that experimenting, using and combining illegal drugs (especially psychedelic drugs) is highly tolerated in the goa scene. Although most goa party visitors use drugs, few acute problems are observed among experienced users. According to the respondents, the goa scene is a “safe” environment for experimenting with drugs, because of shared values like solidarity, freedom and open communication. That said, evidence of long-term side effects of frequent drug use are part of every story in this study.

However, associating goa parties exclusively with drug use is not correct. This scene is mainly characterised by the music psytrance (a sub-genre of EDM) and elements of the hippie culture (fluorescent decorations, specific clothing), or as Riley, Thompson and Griffin (2010, p. 450) have referred to in their post-psychedelic discourse, “Hippies as a distanced ideal”. Although many original values are neglected by the new generation, the conclusion drawn from the data is that typical values are still of importance.

Freedom

Freedom is still of importance in the goa scene, which includes the freedom and tolerance (by users and non-users) to experiment with drugs. For some members, this is a communal freedom in which taking drugs means broadening your experiences and connecting with friends (cf. solidarity). In this context, the desire is to achieve a psychedelic experience (including the party) and to seek autognosis (literally: self-knowledge) (Moro, et al., 2011). Therefore, LSD, for example, but also less common psychedelic drugs like mescaline and ayahuasca, are used.

For another group of goa visitors, freedom means exercising personal freedom (Riley, et al., 2010). Given the clear gap between their lifestyle during the week and the weekend, the drug use of this subgroup can be regarded as a form of hedonism (Measham, Aldridge, & Parker, 2001), while for the first group drug use is rather a choice of lifestyle. Most respondents associate this kind of individual freedom with newcomers who are likely to have different motives and needs for participation and exude new (both increasingly novel and mainstream) styles and behaviours (Kavanaugh & Anderson,
This focus on individualism, one of the characteristics of neo-liberalism, which is part of the actual society, stands in contrast with the collectivist discourse of the original psychedelic philosophy (Riley, et al., 2010).

**Solidarity as preventive measure**

Solidarity and bonding with peers are important values in the goa scene and imply sharing experiences, looking out for each other at a party and talking to friends when they are using too much, which is referred to in the post-psychedelic discourse as the “revelation of connectedness” (Riley, et al., 2010, p. 449). This is considered to be a form of social control and an important preventive measure. Solidarity is not only limited to persons they know, but also to unknown visitors of goa parties. However, the newer generation tend to step away from the original values and more individualism becomes evident (cf. neo-liberalism). Consequently, although some forms of solidarity are still present, they occur less consistently (Kavanaugh & Anderson, 2008).

Kavanaugh and Anderson (2008) have shown evidence of the relationship between solidarity and drug use, in which drug use can increase solidarity. However, this was also seen in people who are not using drugs. Solidarity could also be maintained, for example, by dancing or staying up the whole night. This might also be a reason why goa party visitors do not like the goa scene being identified with drug use. The goal is not to use drugs (although this is not the case for everyone), but to feel connected and share the same experiences with friends, or even with people they just met at the party.

**Responsible drug use**

Regardless of whether respondents lean towards the values of solidarity and communal freedom, or rather individualism, they claim that goa drug users are responsible drug users. Riley and colleagues (2010, p. 449) have stated that “controlled consumption is appropriate consumption” and that these persons are “economic citizens” of the neo-liberalism discourse. According to the respondents, it means knowing your own limits, buying your drugs from known people and trying to limit your drug use to the weekends. In this context, responsible drug use is also a consequence of the open communication, given the tolerance towards drug use by users and non-users. This tolerance enables drug users to share knowledge and experiences (even with new substances) and increase more responsible use. Pennay and Moore (Pennay & Moore, 2010) conclude that this form of self-control is an attempt to manage the tension between stigma and pleasure by assimilative normalisation, a claim to continued membership of ‘normal’ society despite the use of drugs (Rodner, 2005).

Despite the considerable extent of drug use and experimenting at goa parties, few serious health incidents occur. This might suggest a form of controlled hedonism.
(Martinus, McAlaney, McLaughlin, & Smith, 2010). One of the important self-regulating measures is to give drug use an integrated part in one’s life without influencing one’s daily responsibilities. However, sometimes individuals struggle to combine pleasure and self-control. Less experienced users may experience negative acute problems (vomiting, aggressive behaviour), while long-term negative effects (addiction, psychiatric problems) can be seen in more experienced drug users. Harm reduction interventions should be tailored to the needs of less and more experienced drug users, otherwise, users will be less likely to adopt such strategies.

**Structural preventive measures**

Preventive measures can be proposed not only on an individual level, but also on a more structural level to decrease the risks of drug use. A good starting point for effective drug prevention is to understand informants’ own perspectives. Listening to party visitors who take drugs and thinking of them as valuable sources of information will contribute to the revelation of experiences and concerns that are real to them (Rodner, 2005). The findings from this study are a useful starting point and show that the goa scene represents much more than drug use alone and that values like freedom, solidarity and open communication are shared concepts that need to be included in prevention initiatives. The Partywise campaign ‘Keep an I on your friends’ is an example from Flanders of integrating solidarity in an information campaign about potential risks related to drug use.

Goa party visitors should not be regarded as a homogeneous group of frequent drug users. First, not everyone is using drugs to enter into a psychedelic trance. Second, the role of drug use may differ considerably among users and not everyone can be regarded as a problem drug user. Prevention initiatives should distinguish between these types of goa party visitors. However, despite selective and indicated prevention and harm reduction strategies, we should not forget that its entanglement with neo-liberalism (cf. self-control as an important measure) may lead to the neglect of communal values (Riley, et al., 2010), like solidarity and bonding with peers.

Finally, the evolution of the scene from underground, illegal parties to more formally organised events, offers opportunities to cooperate with organisers. This can also stimulate the cooperation with official authorities like the police, first aid services and the local government. More information on new substances as well as peer support and pill testing can prevent drug users from self-harm.

**Limitations of the study**

This study demonstrates that it is not easy to recruit hidden populations of party visitors to the goa scene, which has been associated with excessive drug use in police
records and the media. Sometimes, the researchers felt resistance at the beginning of the interviews. By explaining the goals of the study and by ensuring the confidentiality of reporting, interviewees were able to reduce the number of socially desirable answers. This was in contrast with some of the interviews a few years ago, when there was much media and police attention and interviewees noticed a resistance among the respondents to talk about such sensitive information like drug use in the goa scene.

For pragmatic reasons, the snowball chain started with two health workers in this field as zero-respondents. However, this may have increased the likelihood of recruiting respondents who were known by the health workers and who were already involved in prevention initiatives, which may have biased their opinion and experiences. By using snowball sampling it is possible that some of the referral respondents were also involved in preventive actions, but this information was not requested in the interviews.

In the end, we were able to recruit 19 respondents, which is a small number. However, keeping in mind the nature of the goa scene, the experience of an illegal act like drug use and the topics (drug use, illegality of parties) discussed in the interviews, their stories are of great importance in understanding the role of drug use in this self-regulating setting.

Finally, not many female goa visitors were willing to participate and talk about (their) drug use. From the interviews, it was clear that more men than women visited goa parties, but a clear explanation for the underrepresentation of female respondents in this study was not found.
References


Warson, A. (2007). *Beyond the party: Analyse van de Vlaamse goascène (Analysis of the Flemish goa scene) (Unpublished Master dissertation).* University of Ghent, Faculty of Social Sciences, Department of Communication Sciences, Ghent.


Chapter 6

Using media in alcohol and drug interventions in nightlife¹

A systematic review

Abstract

Drug use in nightlife is higher than in the general population which makes it a good opportunity for interventions to reduce and minimize harm from the use of illegal drugs and excessive alcohol consumption. This setting is packed with electronic media possibilities (TV, social network sites, mobile phones applications) which makes it possible to communicate on a more personal level. A systematic review of peer-reviewed articles was conducted to determine interventions published since 2000 in the broader nightlife scene (bars, clubs, dance events, festivals...) with an active electronic media component to target their audience. In total 14 manuscripts were retrieved. It can be concluded that the least promising actions towards effectiveness are isolated social marketing campaigns. More valuable effects are seen with media advocacy. Reported effectiveness for all multi-component studies that include media advocacy were found. Furthermore, training for public health workers on working with media can result in more effective implementation of the interventions. Future studies should focus on more recent media technologies like mobile phone applications which are not (yet) published in peer-reviewed journals, although some experimental interventions in nightlife exist.

6.1 Introduction

Drug use in the nightlife is higher than in the general population. More drug users and higher drug use can be found in clubs, pubs and dance events (Van Havere, Vanderplasschen, Lammertyn, Broekaert, & Bellis, 2011). Therefore, these recreational settings provide an opportunity to reduce and minimize the harm from the use of illegal drugs and excessive alcohol consumption (Akbar et al., 2011). The last decade, numerous types of prevention and harm reduction interventions have been implemented. A review on prevention programs in recreational settings showed that the majority of interventions aimed to provide information on drugs and minimize harm associated with the use of substances. A minority of interventions had an explicit focus on prevention and reduction of the use of drugs (Calafat, Juan, & Duch, 2009; EMCDDA, 2009). Assessment of preventive outcomes is even less common (Calafat & Pompidou Group Prevention Platform, 2010). However, by understanding the key components of successful interventions, it will be possible to develop future projects and maximize potential to cause effect (Akbar, et al., 2011; Bolier, Voorham, Monshouwer, van Hasselt, & Bellis, 2011; Calafat, et al., 2009).

Three interesting reviews on the outcomes of prevention and harm reduction initiatives in nightlife were published recently (Akbar, et al., 2011; Bolier, et al., 2011; Calafat, et al., 2009). Bolier and her colleagues (2011) aimed to describe the effects of preventive alcohol and drug interventions in the nightlife environment and concluded that
interventions can reduce high-risk alcohol consumption, alcohol-related injury (e.g. traffic accidents), violent crimes, access to alcohol by underage youth, and alcohol service to intoxicated people (Bolier, et al., 2011). Akbar and his colleagues (Akbar, et al., 2011) conducted a systematic review to investigate harm reduction interventions applied to reduce the use, abuse and misuse of alcohol and illicit drugs in recreational settings. They concluded that many studies retrieved had originated outside Europe and were from USA and Australia, with few evaluations included. Two main components were identified in the majority of the studies: training service staff in 86% and multi-component approaches within 58% of the studies (Akbar, et al., 2011). The training of staff is one of the most widely implemented interventions for reducing alcohol related problems, but the data on effectiveness of these trainings are mixed (Akbar, et al., 2011; Calafat, et al., 2009). The initiatives with multi-component approaches seemed to have more positive effects, especially when law enforcement is included (Akbar, et al., 2011; Bolier, et al., 2011; Calafat, et al., 2009). Calafat and his colleagues concluded in a review that the best strategy is the combination of training bar personnel, cooperation with public services and leisure industry and law enforcement (Calafat, et al., 2009).

Recently more attention is given to the role of electronic media (TV, radio), electronic communication (cell phones, email,...) and social media in nightlife. For the purpose of this article we will use electronic media as global term for all these different sorts of media. The nightlife arena is packed with electronic media possibilities and new and attractive technologies. Social network services, smart phones and mobile applications have blurred the line between mass media production and personal communication tools. Only recently, more specifically with the extensive propagation of internet access across the population public health workers are experimenting with specific forms and channels of communication related to the target group they want to reach. Illustrative was the thematic conference on the media influence in nightlife associated with alcohol and other drugs organized by the Club Health network in 2010.

This conference brought together an international audience of public health workers and researchers to exchange experiences with how to use electronic media. This resulted in a literature review and practical guidelines and recommendations for media usage in public health interventions (Jongbloet, van der Kreeft, & Van Havere, 2011; Jongbloet, Van Havere, & Van der Kreeft, 2012).

However, little is known on the effectiveness and practicability of the use of electronic media technologies in harm reduction and prevention strategies targeting illicit drug and alcohol use in nightlife. Most research on the use of media in prevention and harm reduction focuses on the effectiveness of mass media campaigns of tobacco. In the reviews of Akbar et al. (2011) and Bolier et al. (2011) on interventions to reduce harm from alcohol or illicit drug use in nightlife few interventions described media use as a component in their intervention (e.g. Pic-a-skipper, Operation Drink Safe, STAD,...), but
both reviews report only limited on the use of media. Therefore, this article will focus on those prevention activities in nightlife that include an electronic media component. The overall aim of this study is to describe the effects and practicability of electronic media components in alcohol and drug interventions in the nightlife environment to stimulate public health workers to include media as a tool to target their audience and support the preventive intervention.

### 6.2 Method

A search strategy was set up at the beginning of October 2011 to include relevant studies. We limited our search to articles dating from 2000 onward to focus on more recent media technologies. Only English articles were included regardless of country of origin. Relevant search terms were identified using four categories: keywords related to alcohol and drugs, interventions, nightlife setting and electronic media (Table 1). These text words were entered and combined in following databases: Web of Knowledge, PubMed/MedLine, Science Direct and the Cochrane Database of Systematic Reviews. This resulted in a total of 802 articles (doubles included). The next step was to exclude the doubles and screen the titles on relevancy. This was conducted by one researcher (JJ). For the first screening following exclusion criteria were used: the title was clearly referring to treatment, tobacco use, infectious diseases, gambling, non-nightlife settings or only prevalences and no intervention was included in the study. A total of 92 articles were hold back.

**Table 1: Overview of search terms**

<table>
<thead>
<tr>
<th>Keywords related to</th>
<th>alcohol OR “substance use” OR “legal High*” OR “Designer drug*” OR (drug* AND (illicit OR illegal OR legal))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol and other drugs</td>
<td>prevent* OR interven* OR train* OR campaign* OR education OR “harm reduction” OR program* OR “peer support”</td>
</tr>
<tr>
<td>Interventions</td>
<td>licensed premises OR nightlife OR club$ OR disco* OR Pub OR pubs OR bar OR bars OR festival* OR rave OR Raves OR nightclub* OR night time OR recreat*</td>
</tr>
<tr>
<td>Nightlife setting</td>
<td>internet OR website* OR “web page*” OR online OR “social media” OR facebook OR “social network service*” OR television OR tv OR radio OR media OR news* OR press OR celebrit* OR sms OR “mobile app*” OR “mobile phone*” OR “Cell Phone*” OR “smart phone*” OR Magazine*</td>
</tr>
<tr>
<td>Electronic media</td>
<td></td>
</tr>
</tbody>
</table>

The next step was to scan all abstracts of the 92 articles on following inclusion criteria:

- The article should be published in a peer-reviewed journal
- The intervention should be aimed at the prevention of harmful alcohol and/or drug use alongside other possible risk behaviour.
• The intervention described should include the use of electronic media (thus excluding flyers, pamphlets) and the media component should be part of the conceptual model of the intervention, thus excluding use of media in finding respondents.

• At least a part of the intervention should take place in the broader nightlife scene, as clubs, pubs, bars, festivals, raves,...

Because evaluation studies are limited in the field of prevention in the nightlife scene, we included peer-reviewed articles describing interventions also without evaluating outcomes. Although this was our intention, in the end no studies without evaluation components were included because of the other inclusion criteria.

Scanning the 92 articles was conducted by two reviewers independently (JJ and TVH) and resulted in immediate consensus for almost 80% of the abstracts. In case of discussion between the two reviewers complete articles were reviewed (19 articles). In total 14 articles were included at this moment (Bellis & Hughes, 2011; Gripenberg, Wallin, & Andreasson, 2007; Henk, Fette, & Ballard, 2007; Huckle, Conway, Casswell, & Pledger, 2005; Martinus, McAlaney, McLaughlin, & Smith, 2010; Miller & Levy, 2000; Mitchell, Toomey, & Erickson, 2005; Roeper, Voas, Padilla-Sanchez, & Esteban, 2000; Rogers & Anderson, 2007; Rosenbaum, 2002; Saltz, Paschall, McGaffigan, & Nygaard, 2010; Snyder et al., 2004; van Gemert et al., 2011; Voas, Tippetts, Johnson, Lange, & Baker, 2002).

The references of 10 review articles (Akbar, et al., 2011; Foxcroft & Tsertsvadze, 2011a, 2011b; Gates, McCambridge, Smith, & Foxcroft, 2006; Goss et al., 2008; Hayes et al., 2011; Ker & Chinnock, 2008; Knapp, Soares, Farrel, & Silva de Lima, 2007; Smedslund et al., 2011) were screened. Differences between the reviewers were discussed until agreement was reached. In most instances, the decision was based on the abstracts. If this was not possible due to incomplete information, the decision was based on the full paper. Three articles were included on screening the review articles (Holder, 2000; Wagenaar, Toomey, & Erickson, 2005; Warpenius, Holmila, & Mustonen, 2010).

The database of the ‘Healthy Nightlife Toolbox’ (http://www.hnt-info.eu/) was also searched to identify missing interventions and two studies were included in this phase (Gripenberg, et al., 2007; Kypri, Dean, Kirby, Harris, & Kake, 2005) what the total brought to 19 articles.

The reference list of these 19 articles were screened for other interesting articles on interventions. 4 more manuscripts met the inclusion criteria (Clapp et al., 2005; Saltz, Welker, Paschall, Feeney, & Fabiano, 2009; Wallin, Norstrom, & Andreasson, 2003; Wood et al., 2009).
After reading the whole manuscripts of this 23 articles, 9 articles didn’t fulfil the inclusion criteria. Mostly, these were studies on data from a study in the nightlife setting without the inclusion of an actual prevention or harm reduction intervention. These 9 articles were excluded (Bellis & Hughes, 2011; Gripenberg, et al., 2007; Henk, et al., 2007; Martinus, et al., 2010; Miller & Levy, 2000; Mitchell, et al., 2005; Rogers & Anderson, 2007; Rosenbaum, 2002; Snyder, et al., 2004).

In total 14 manuscripts on a nightlife related intervention on alcohol and/or drugs with an electronic media component were retrieved. Results obtained were managed using the reference software EndNote. The full analysis and description of the 14 articles was performed by two researchers (JJ & TVH).

Rating the studies

Each intervention was rated for the quality of the evaluation. In this phase the rating system of the Nightlife Healthy Toolbox was used which referred to the GRADE system (cf. www.gradeworkinggroup.org) (GRADE Working Group, 2004; Guyatt et al., 2008). Interventions were rated on a four point scale (1 = low quality; 4 = high quality) (Table 2). This rating was not conducted by means of a meta-analysis and should therefore not be considered as such.

Table 2: Quality ratings evaluation (GRADE)

<table>
<thead>
<tr>
<th>Quality Rating</th>
<th>Definition</th>
<th>Intervention research</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Further research is very unlikely to change the confidence in the estimate of effect</td>
<td>RCTs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quasi-experimental research and repeated n=1 studies with effect, process and cost-efficiency evaluation conducted</td>
</tr>
<tr>
<td>Moderate</td>
<td>Further research is likely to have an important impact on the confidence in the estimate of effect and may change the estimate</td>
<td>Quasi-experimental research and repeated n=1 studies with effect evaluation conducted but no process and/ or cost-efficiency evaluation results</td>
</tr>
<tr>
<td>Low</td>
<td>Further research is very likely to have an important impact on the confidence in the estimate of effect and is likely to change the estimate</td>
<td>Quasi-experimental research and repeated n=1 studies with process and/ or cost-efficiency evaluation results but without an effect evaluation being conducted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Observational studies providing useful information for identifying possible associations and with process and/ or cost-efficiency evaluation being conducted</td>
</tr>
<tr>
<td>Very low</td>
<td>Any estimate of effect is uncertain</td>
<td>Observational studies with process and/ or cost-efficiency evaluation conducted but without providing useful information for identifying possible associations</td>
</tr>
</tbody>
</table>
6.3 Results

Overview

A total of 14 peer-reviewed articles on 12 interventions met the inclusion criteria for this review. The studies of Roeper et al. (2000) and Holder (2000) include the same intervention, the Community Trials Project. The articles of Wallin (2003) and Gripenberg (2007) report on two different components of the STAD project (Stockholm Prevents Alcohol and Drug Problems). The interventions target harmful illicit drug and/or alcohol use alongside other possible risk behaviour and are (at least partially) implemented in the broader nightlife. Furthermore, the included interventions describe electronic media activities which are part of the conceptual model of the intervention.

Eight unique studies were found that originate from the USA. Two studies on independent interventions were conducted in New Zealand and one in Australia. All but three articles derive from Anglo-Saxon countries: two studies were conducted in Sweden which fit in with a broad community mobilization program in Stockholm (STAD project) and one from Finland which aimed to change community structures to reduce alcohol related trauma.

Targets

Regarding substances addressed we only find one intervention specifically targeting illicit drug use (Gripenberg, et al., 2007). The remaining 13 studies are targeted at tackling risky alcohol use and the harmful consequences of drinking (Table 3).

Regarding target group, four interventions targeting college students were included. Two interventions focus on teenagers/adolescents as primary target group and parents as mediators. Five interventions (7 articles) target licensed premises, three interventions (4 articles) target off-licensed premises and one (2 articles) community coalitions and enforcement officers. Finally, one study targets young people crossing the border to visit.

Four studies focus on alcohol drinking behaviour, five on drink and driving behaviour, six on inappropriate supply of alcohol to minors and three on intoxicated visitors, one on violent crimes and one on drug-impaired patrons.

Quality of evaluation study

Research designs varied across the studies. One evaluation study can be considered as being high qualitative. It included outcome measures, process evaluation and in the design of the studies comparison sites, pretest/posttest and time series data were
included (Holder, 2000). The majority of the included studies (n = 9) were rated as being moderately qualitative. All these studies conducted an evaluation study with a comparison group or control area and had (at least partially) a pretest/posttest. Four studies included a time-series quasi experimental design. The evaluation of the three lasting interventions was rated low quality, because they used no control groups. Two of these intervention used a pretest/posttest (Gripenberg, et al., 2007; Huckle, et al., 2005) and one didn’t include this in its design (van Gemert, et al., 2011) (Table 4).

**Effectiveness and electronic media involvement**

In this study we focus on electronic media activities in nightlife prevention interventions. A distinction is made between social marketing and media advocacy. Social marketing uses traditional advertising methods to influence individual behaviour. Media advocacy can include several actions, such as media training for stakeholders, stimulating news coverage on activities and publishing relevant statistics. Media advocacy then creates a platform, a critical mass that potentially mobilizes politicians and decision makers. Not all interventions components and evaluation results are described in detail, but the focus will be on electronic media components and media outcomes. However, not every study defines the electronic media component in detail or paid attention in the evaluation results to the role of the electronic media.

**Social marketing campaigns**

Three interventions were included which target their audience by social marketing campaigns (advertisements) and three combine social marketing and media advocacy although this is not always clearly defined (Clapp, et al., 2005; Gripenberg, et al., 2007; Saltz, et al., 2009) (Table 3). Focusing on the electronic media in the social marketing campaigns these interventions included different actions: (campus) radio advertisements (Kypri, et al., 2005; van Gemert, et al., 2011; Wood, et al., 2009), magazine, radio interviews, media events (Kypri, et al., 2005), television, cinema, online advertising (van Gemert, et al., 2011), website (Gripenberg, et al., 2007; Saltz, et al., 2009) and advertising by email (Wood, et al., 2009).

In general few aimed effects were seen after implementing a social marketing campaign, especially when this was the only component of the intervention. The interventions showed no significant reduction in unsupervised drinking after the brief mass media campaign ‘Think before you buy under-18s drink’ (Kypri, et al., 2005), failed to reach the most important target groups, namely participants reporting frequent risky single occasion drinking (van Gemert, et al., 2011) or showed mixed results (Wood, et al., 2009). In the latter study perceptions of alcohol enforcement, alcohol access and the local alcohol environment were successfully altered, but iatrogenic effects on actual drinking behaviour were observed (Wood, et al., 2009). The most widely seen campaign
component were the newspaper advertisements (Kypri, et al., 2005). The combination of media advocacy and a media campaign showed more promising effects (see media advocacy) (Clapp, et al., 2005; Gripenberg, et al., 2007; Saltz, et al., 2009).

Media advocacy

Nine interventions (11 articles) have media advocacy as an active component in the intervention design. Media advocacy activities included media releases in the local media (campus media, local television and radio) in all interventions. The other actions varied: media training (Holder, 2000; Huckle, et al., 2005), discussing follow-up media, a media launch (Huckle, et al., 2005), press conferences or media events (Gripenberg, et al., 2007; Voas, et al., 2002), website (Saltz, et al., 2010), e-mails (Saltz, et al., 2010), involvement of media in steering or working group (Warpenius, et al., 2010) and national media releases (television and radio) (Gripenberg, et al., 2007; Warpenius, et al., 2010).

Notably, all nine interventions have implemented at least (increased) enforcement strategies. Moreover, media attention was asked for at least enforcement actions in all interventions. Overall, all interventions showed effectiveness across a number of outcomes.

The sales of alcohol decreased in following situations: sales made without age identification (Huckle, et al., 2005), sales to minors (Holder, 2000; Wagenaar, et al., 2005) and sales to intoxicated patrons (Warpenius, et al., 2010). Risky drinking behaviour (Clapp, et al., 2005; Roeper, et al., 2000; Saltz, et al., 2010; Saltz, et al., 2009; Voas, et al., 2002) and alcohol-involved crashes were reduced (Holder, 2000; Roeper, et al., 2000). A reduce in violent crimes (Wallin, et al., 2003), an increase in responsible alcohol serving practices (Holder, 2000) and a higher awareness on alcohol problems (Holder, 2000; Voas, et al., 2002) was seen. Gripenberg et al. (Gripenberg, et al., 2007) found an increase in doormen interventions within attempts in entering the club by actors who were obviously impaired.

The role of media advocacy showed mostly positive results. The higher media coverage on intervention related topics was important in raising awareness on community and political level (Holder, 2000; Huckle, et al., 2005; Voas, et al., 2002). This higher awareness lead to behavioural changes. Especially when this media coverage was on enforcement (Clapp, et al., 2005; Holder, 2000; Huckle, et al., 2005; Roeper, et al., 2000; Voas, et al., 2002; Warpenius, et al., 2010). Wallin et al. (2003) even found that most policy changes in favour of the intervention aims were to be found in the intervention area where media coverage of news about licensed premises was primarily focused. Furthermore, local media served as a lightning rod for enthusiasm and provided local staff and project participants with a sense of efficacy and the potential for change.
(Holder, 2000). However, the study of Wagenaar et al. (2005) showed mixed results on the included media variables (print and broadcast media). Television broadcasts regarding enforcement checks conducted in the community decreased (5%) the sales to minors in off-premise establishments with this effect decreasing to zero within two weeks after a broadcast. For on-premise establishments this was only marginally significant. In further analysis, the media variables did not appear to be acting as mediators of the intervention effect.

### 6.4 Discussion

Nightlife is an expanding and dynamic sector with positive outcomes for the welfare of the community and for individual development (Calafat, et al., 2009). However, previous articles have shown a higher use of drugs in these settings (Van Havere, Vanderplasschen, Broekaert, & De Bourdeaudhui, 2009; Van Havere, et al., 2011). To prevent problems with drug use, prevention and harm reduction initiatives are necessary. This literature review of interventions in a broader nightlife including an active electronic media component in its design concludes that the least promising actions towards effectiveness are the social marketing campaigns that are not framed in a wider intervention design. More valuable effects are seen when combining social marketing strategies with media advocacy, but also when only media advocacy is implemented in combination with other program components. Even though outcome indicators are very diverse, we find reported effectiveness for all multi-component studies that include media advocacy. How these electronic media activities contribute to the effectiveness of the desired outcome however is still obscure and could not be established in this review.

Although social marketing campaigns have the capacity to reach a large and broad cross-section of the population and are very popular, the evidence for behaviour change post intervention is mixed. Research on mass media relates predominantly to tobacco, with scarcely any focus on alcohol and only few on illicit drugs. The existing evaluations conclude that isolated campaigns do not reduce consumption (of tobacco) (EMCDDA, 2008). Furthermore, some campaigns even had counter-productive effects: young people were more likely after the intervention to use the drugs focused on (Fletcher, Calafat, Pirona, & Olszewski, 2010). However, mass media interventions can be a very effective measure when they are implemented together with community actions (Calafat, et al., 2009; EMCDDA, 2008). Nevertheless, isolated social marketing campaigns are produced regularly. This indicates these campaigns could be a waste of investment of resources.

However, before looking at the level of effectiveness on behavioural level, it should be evaluated whether the campaign is thoroughly implemented and whether the aimed
target group is reached. Media messages must reach the targeted audience (Brinn, Carons, Esterman, Chang, & Smith, 2011). The inherent problem with these campaigns however is the inability to do good prevention and harm reduction work on a selective basis, e.g. targeting clubbers (Jongbloet, et al., 2011). Those youngsters are in need of different preventive information and skills building, while this same information could be cause of iatrogenic effects in the wider population (Ashton, 2005; Bellis et al., 2008). For the selective audience of party people other more tailor-made strategies and messages may be effective.

Alternative social marketing strategies, like peer-based interventions, mobile phone applications or social network websites, could be more effective in reaching this at-risk group of party people (van Gemert, et al., 2011). A study on an intervention including web-based personalised feedback and social norms shows promising results. Not only seem online interventions accessible and of interest for a population of young people, also a change in individual drinking behaviour was noticed (Bewick, Trusler, Mulhern, Barkham, & Hill, 2008). In Flanders, users of drugs can reduce or stop using with the assistance of an online self-help program ‘Hoeveel is te veel’ (‘How much is too much’) (cf. VAD). Another example is www.drugsmeter.com, which gives personalised feedback on the use of drugs and who are developing drugs meter applications for different kinds of mobile phones (cf. GDS). Palmaerts from Trendwolves, a market research agency especially focusing on youth trends, stressed out the importance of following information opportunities in the fast changing technology world. Lessons can be learned from marketing agencies who are experienced in targeting different groups to sell their messages (Palmaerts, 2011).

Furthermore, social marketing prevention efforts should focus on gain- (e.g. if you delay drug initiation you are more likely to be healthy in the future), rather than loss or fear framed (e.g. if you use drugs at an early age you are likely to get sick) messages. Targeting hedonistic young people with messages that increasing healthy choices will lead to more years in which to experience happiness and fun may be a successful way of engaging them (Sumnall et al., 2010, p. 102).

Media advocacy is mostly used to influence attitudes on community or political level and according to the included studies this strategy is very promising. Moreover, creating policy-driven structural changes within a community is very difficult without skilful media work (Holder, 2000) and as Homel states: “venues will be left alone by police and licensing officials if there is no trouble serious enough to attract media or political attention”(Homel, Carvolth, Hauritz, McIlwain, & Teague, 2004). From the review and a Cochrane review conducted by Goss et al. (2008) it is concluded that behavioural change can be noticed from media advocacy, especially when media attention covers enforcement actions and is combined with other community activities. The media coverage guaranteed that increased law enforcement was known commonly
through local publicity (Warpenius, et al., 2010). Media coverage can be by paid media (advertisements) as well as by ‘earned’ (unpaid) media generated by the activities of an intervention or fostered by the campaign (Goss, et al., 2008). As Bolier et al. (2011) concluded in their review on prevention in nightlife multi-component approaches have more positive effects, especially when law enforcement is included. However, these effects could decay within a few months. Therefore, enforcement and relating media attention should conduct checks frequently to maintain the effect (Wagenaar, et al., 2005).

Public health workers can benefit from media training to improve their contact with the media, which results in a higher media coverage on the related topic or to target selective groups by using media adequately. Sometimes prevention workers are reluctant to contact the press in fear of stimulating counter-productive effects, e.g. establishing a social norm that overestimates the prevalence of this behaviour (Jongbloet, et al., 2011). However, having a good and productive contact with the press can increase personal influence on how media reflects on topics concerning drugs. At the same time accurately informed and balanced reporting could offer an important contribution to the prevention of unhealthy behaviour in nightlife (Hughes, Spicer, Lancaster, Matthew-Simmons, & Dillon, 2010). To support public health workers a guideline on how to use media in nightlife prevention with references to concrete examples was developed in the framework of the Club Health project (http://club-health.eu/). Firstly, this guideline focuses on media advocacy and how to prepare your message. Secondly, tips are described to reach party people by different channels of the media (Jongbloet, et al., 2012) (http://www.club-health.eu/docs/Media_influence_guidelines_FINAL.pdf).

Originally, our search focused on recent media technologies such as mobile phone applications, online social networks, micro blogging (e.g. Twitter), etc. However, it became clear that no studies would be included in the review. Taking into account the nightlife setting to be fashionable and pioneers in new trends, this finding is surprising. It doesn’t imply no such interventions exist. For example, the Nightlife Empowerment and Well-being Implementation Project (NEWIP) developed a Bluetooth message system to convey information about the consequences of drug usage (Gamberini, Zamboni, Spagnolli, & de Guili, 2011). Interreg IV, a Flemish-French cooperation between Vitalsounds and Spiritek, makes contact with visitors of nightlife by social network sites (Hauspie & Noclain, 2011). These promising mostly regional prevention or harm reduction initiatives have limited resources and evaluating the effects of the intervention is no priority. Hopefully, in a few years evaluations on the use of electronic media and recent technologies in the public health prevention will be available.

This study has some limitations. Although originally inclusion criteria of the literature search didn’t mention evaluation designs, it was immediately clear that limiting
the search to peer-reviewed articles did however imply evaluated interventions. Experimental projects are being developed include recent media technologies. The time lag between creating an intervention, evaluating the project and publishing the data in a peer-reviewed journal might make it too early to search for this literature. However, public health workers are under pressure to select interventions which are evidence-based, consequently there is a need to fill this knowledge-gap (Akbar, et al., 2011). Although it is the authors opinion that the focus shouldn’t be solely on evidence-based components, because this might limit creative and experimental projects which should be stimulated in using upcoming media opportunities. A search including grey literature could result in more included prevention and harm reduction interventions in the nightlife setting. The limited number of studies retrieved may also reflect the search strategy employed. Furthermore, the description of the intervention with a media component included was not always very clear and detailed. Some interventions including a media component but not mentioning it in the peer reviewed article might have been excluded from the literature search.

Conclusions

Nightlife offers a good opportunity to implement prevention and harm reduction interventions, because of the higher prevalence of alcohol and legal drugs. Furthermore, this setting is often a trend setter in recent media technologies. The last decade more attention is given to the role of media in nightlife. The recent communication technologies offer the possibility to interact and communicate on a more personal level. However, public health workers are often reluctant to work with media because of their lack of experience. A systematic review of peer-reviewed articles on prevention and harm reduction interventions in the broader nightlife resulted in only 14 manuscripts. All except one included an intervention on alcohol and almost half a social marketing campaign. However, when implemented isolated, few effects are seen, while in combination with media advocacy (and other components) more positive effects are seen. Much depends on reaching the targeted group. Alternative social marketing strategies, like peer-based interventions, mobile phone applications or social network websites, could be more effective in reaching this at-risk group of party people. Furthermore, it can be concluded that multi-component approaches have more positive effects, especially when law enforcement with media attention is included. Public health workers can benefit from a media training and lessons can be learned from marketing agencies who are experienced in targeting different groups to sell their messages.
<table>
<thead>
<tr>
<th>Intervention reference</th>
<th>Submarine name</th>
<th>Substance addressed</th>
<th>Country</th>
<th>Target group &amp; Aims</th>
<th>Intervention Characteristics + Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>van Gemert et al. 2011</td>
<td>Don’t turn a night out into a nightmare</td>
<td>Alcohol</td>
<td>Australia</td>
<td>Increase awareness of the harms and costs associated with risky drinking among young Australians.</td>
<td>Social marketing campaign + Enforcement</td>
</tr>
<tr>
<td>Saltz et al. 2010</td>
<td>The Safer California Universities study</td>
<td>Alcohol</td>
<td>USA</td>
<td>Reduce the likelihood and incidence of student intoxication at off-campus settings.</td>
<td>Social marketing campaign + DUI – checkpoints</td>
</tr>
<tr>
<td>Warpenius et al. 2010</td>
<td>Local Alcohol Policy (PAKKAA)</td>
<td>Alcohol</td>
<td>Finland</td>
<td>Reduce the serving of alcoholic beverages to intoxicated clients on licensed premises.</td>
<td>Social marketing campaign + Enforcement</td>
</tr>
<tr>
<td>Saltz et al. 2009</td>
<td>Neighborhoods Engaging with Students project (NEST)</td>
<td>Alcohol</td>
<td>USA</td>
<td>Reduce heavy episodic drinking and intoxication at off-campus parties.</td>
<td>Social marketing campaign + Enforcement</td>
</tr>
<tr>
<td>Wood et al. 2009</td>
<td>Common Ground: Rhodemap to safety (RMS)</td>
<td>Alcohol</td>
<td>USA</td>
<td>Decreasing college student drinking</td>
<td>Social marketing campaign + Enforcement</td>
</tr>
<tr>
<td>Gripenberg et al. 2007</td>
<td>Stockholm against alcohol and drugs (STAD)</td>
<td>Drugs</td>
<td>Sweden</td>
<td>Increasing the frequency with which doormen intervene in cases of obviously drug-use impaired patrons.</td>
<td>Social marketing campaign + Enforcement</td>
</tr>
</tbody>
</table>

Table 3: Intervention characteristics
<table>
<thead>
<tr>
<th>Study</th>
<th>Measure of Alcohol Use</th>
<th>Country</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clapp et al. 2005</td>
<td>Not mentioned</td>
<td>USA</td>
<td>Increased students' perceived risk of getting a ticket or being arrested for driving under influence (DUI) and reduce DUI.</td>
</tr>
<tr>
<td>Huckle et al. 2005</td>
<td>The Auckland Regional Community Action Project (ARCAP)</td>
<td>New Zealand</td>
<td>Reduce access to alcohol from off-license premises by minors.</td>
</tr>
<tr>
<td>Kypri et al. 2005</td>
<td>Think before you buy under-18s drink</td>
<td>New Zealand</td>
<td>Increase the knowledge of adults of the risks of supplying alcohol to teenagers. Reduction in the percentage of adults who supply alcohol to teenagers for unsupervised consumption.</td>
</tr>
<tr>
<td>Wagenaar et al. 2005</td>
<td>Complying with the Minimum Drinking Age</td>
<td>USA</td>
<td>Reduce alcohol sales to minors</td>
</tr>
<tr>
<td>Wallin et al. 2003</td>
<td>STAD</td>
<td>Sweden</td>
<td>Decrease violent crimes</td>
</tr>
<tr>
<td>Voas et al. 2002</td>
<td>Operation safe crossing (OSC)</td>
<td>USA</td>
<td>Reduce the number of impaired drivers returning following an evening of binge drinking.</td>
</tr>
<tr>
<td>Holder 2000, Roeper et al. 2000</td>
<td>Preventing Alcohol Trauma</td>
<td>USA</td>
<td>Reduce local alcohol-involved injuries and deaths, reduce alcohol sales to minors and intoxicated persons, reduce availability of alcohol.</td>
</tr>
<tr>
<td>Study reference</td>
<td>Study design</td>
<td>Sample</td>
<td>Data Collection Methods</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------</td>
<td>--------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>van Gemert et al. 2011</td>
<td>Cross-sectional behavioural survey</td>
<td>1072 young people (16-29 years) recruited by convenience sampling at the Melbourne Big Day Out festival</td>
<td>Self-completed survey</td>
</tr>
<tr>
<td>Saltz et al. 2010</td>
<td>Randomized experimental design with control group and pretest/posttest</td>
<td>Random samples of 19,791 undergraduates of 14 public universities randomly assigned to the intervention or control group</td>
<td>Online surveys in four consecutive fall semesters (baseline: 2003- four consecutive fall semesters until 2006)</td>
</tr>
<tr>
<td>Warpenius et al. 2009</td>
<td>Pre- and post-intervention study design with control group</td>
<td>94 licensed premises</td>
<td>Observations with pseudo-intoxicated patrons acting as if they were clearly under the influence of alcohol</td>
</tr>
<tr>
<td>Saltz et al. 2009</td>
<td>Quasi-experimental non-equivalent comparison group design</td>
<td>Random samples of 3,193 undergraduates of 3 public universities (2 intervention and 1 control site)</td>
<td>Online surveys in the fall 2005 and fall 2006</td>
</tr>
<tr>
<td>Gripenberg et al. 2007</td>
<td>Pretest-posttest study design</td>
<td>Twenty-eight licensed premises</td>
<td>Observations with pseudo-intoxicated patrons acting as if they were drug use-impaired</td>
</tr>
<tr>
<td>Study (2005)</td>
<td>Design Type</td>
<td>Sample Description</td>
<td>Methods</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Clapp et al.</td>
<td>Quasi-experimental, non-equivalent comparison group design</td>
<td>Random sample of 4832 undergraduates of two universities</td>
<td>Telephone surveys</td>
</tr>
<tr>
<td>Huckle et al.</td>
<td>Naturalistic case study design with pretest/posttest</td>
<td>Random sample of 250 premises for both surveys. Key informants from enforcement staff. Documents.</td>
<td></td>
</tr>
<tr>
<td>Kypri et al.</td>
<td>Quasi-experimental, non-equivalent comparison group design</td>
<td>872 teenagers (approximately 15 to 17 years) from secondary schools in three communities (2 interventions and 1 control site). Random sample of 748 parents.</td>
<td>Youth surveys at baseline and follow-up. Parent surveys at baseline and follow-up.</td>
</tr>
<tr>
<td>Wagenaar et al.</td>
<td>Time-series quasi-experimental trial with a nested cohort design</td>
<td>10 cohorts with a random subsample of 602 on-premises and 304 off-premises.</td>
<td>Purchase attempts twice a week for 4.5 years.</td>
</tr>
</tbody>
</table>
### Table 4: Study design and effects

<table>
<thead>
<tr>
<th>Study reference</th>
<th>Study design</th>
<th>Sample</th>
<th>Data Collection Methods</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wallin et al. 2003</td>
<td>Time-series quasi-experimental design with control area</td>
<td>Registered data</td>
<td>Data on police-reported violence during the period of January 1994 to September 2000</td>
<td>Decrease by 29%. Although some policy changes have occurred in the whole of Stockholm Inner City, most community alcohol prevention activities have been concentrated in the intervention area where media coverage of news about licensed premises was primarily focused.</td>
</tr>
<tr>
<td>Voas et al. 2002</td>
<td>Time-series quasi-experimental design with control area</td>
<td>Underage youths aged 18–20 years and young adults aged 21–30 years residing in San Diego County and registered data</td>
<td>Media coverage Telephone survey Monitoring border crossers Surveys Breath test Police data on crashes</td>
<td>Participants reporting they had been to a bar in Tijuana were more likely to report awareness of an increase in enforcement. From 50% to 60% of the Tijuana bar-goers were aware of the increased enforcement. Reduction of late-night crossers by 31.6% Decline in number of underage drinking pedestrians by 39.8% A 45.3% reduction in had-been-drinking crashes in the number of 16-20 year-old drivers.</td>
</tr>
<tr>
<td>Holder 2000</td>
<td>Quasi-experimental non-equivalent comparison group design, partial time-series</td>
<td>Not mentioned in this article</td>
<td>Not mentioned in this article</td>
<td>Reduction in alcohol-involved crashes and sales to minors. Increase in responsible alcohol serving practices of bars and restaurants, community support and awareness of alcohol problems. Local media not only influenced public opinion and community leaders but also served as a lightning rod for enthusiasm and provided local staff and project participants with a sense of efficacy and the potential for change. Community training in techniques for working with local news media led to a statistically significant increase in coverage of alcohol issues in local newspapers and on local TV in the experimental communities over their matched comparison communities.</td>
</tr>
<tr>
<td>Wallin et al. 2003</td>
<td>Quasi-experimental non-equivalent comparison group design</td>
<td>Drivers and registered data</td>
<td>Week-end police-reported traffic injury crashes, traffic crashes from hospital discharge data, roadside surveys on drivers, Document analysis Monitoring local media Breathalyzers</td>
<td>Decrease in night time traffic injuries and the number of admissions to hospitals due to traffic accidents. Altogether there were 116 fewer injury accidents. The reduction of drinking and driving can be maintained for an extended period of time, in this case more than 3½ years with a concerted community effort. Increase in enforcement coverage in newspaper articles and TV news segments. Negative correlation of percentage of drivers having a positive BAC passing through sobriety checkpoints and extent of coverage of enforcement in the newspaper ($r = -0.30, p &lt; 0.05$)</td>
</tr>
</tbody>
</table>
References


Chapter 7

General discussion
Abstract

In this last chapter we summarize the main findings of this dissertation and highlight the most remarkable conclusions of the five studies. We further discuss the implications of this dissertation for all professionals involved in nightlife and present some concrete recommendations for action. Furthermore, the importance for evaluation and the orthopedagogical implications are highlighted. Finally, we address the overall limitations of this dissertation and provide some future research recommendations.

7.1 Introduction

The central aim of this dissertation was to explore the drug use and characteristics of people who go out in Flanders, whether these party people faced problems and how they kept out of problems. This central aim resulted in different types of goals. Firstly, we improved the academic knowledge (Maso & Smaling, 1998) of this group of young people. Secondly, because of the importance of action from an orthopedagogical approach, this dissertation also looked at practical oriented goals (Maso & Smaling, 1998): we integrated the findings of the studies in suggestions for prevention and harm reduction to minimize possible risks from using alcohol or/and illegal drugs. With this dissertation we hope to stimulate future actions to improve the quality of life of young people who go out.

The central aim of this dissertation was translated in five studies. In a first study we studied the role of gender and age on the prevalence of substance use in various nightlife settings. The second study focused on correlations between nightlife variables like music preference and nightlife venues, and drug use. Thirdly, we analyzed evolutions in the use of illegal drugs. Based on these studies one group of party visitors appeared to be more drug experienced than others, namely goa party visitors. In the fourth study we looked for insights in the motivations of these party people to use drugs even more than other target groups of this dissertation (Zinberg's set and setting) and how they keep out of problems. Finally, we focused on prevention and harm reduction initiatives which use media to target the audience of people in nightlife settings.

7.2 Main findings

7.2.1 Higher prevalence of drug use in nightlife

Given the lack of longitudinal research in the nightlife scene, and given the importance of party people as innovators and early adaptors in the diffusion of substance use (Rogers, 2003), we explored the drug use of visitors of nightlife. Therefore, a bi-annual
survey in the nightlife scene of Flanders was conducted. Each second year (2003-2005-2007-2009), a sample of party people was selected at three clubs, two dance events and two rock festivals. In total, 2812 respondents filled in a questionnaire on the use of alcohol, cannabis, ecstasy, cocaine, amphetamines, GHB and ketamine. From these data we can conclude that the prevalence of drug use among people in nightlife settings is much higher than in the general population (Chapter 2, 3, 4).

From the data of 2005 (Chapter 2) it is clear that almost all respondents (89.5%) drank alcohol in the past year and 44.2% reported the use of at least one illegal drug in the past year. Cannabis is the most-used illegal substance and ecstasy has reached second place. Cocaine and amphetamines are used less frequently and by fewer people as compared to the study of Calafat et al. (1999). The use of GHB and ketamine is only marginally reported in the present study, although various international studies have found higher frequencies of GHB use (Barrett, Gross, Garand, & Pihl, 2005; Korf, Nabben, & Benschop, 2003; Pijlman, Krul, & Niesink, 2003; Riley & Hayward, 2004). Three out of four respondents combine alcohol with illegal drugs, and almost half of them combine various illegal drugs which has also been identified in various studies on nightlife (Calafat, et al., 1999; Measham, Aldridge, & Parker, 2001; Nabben & Korf, 2000; Parker & Williams, 2003; Riley & Hayward, 2004; Tossmann, Boldt, & Tensil, 2001; Winstock, Griffiths, & Stewart, 2001). Compared with the prevalence of illegal drugs (see 1.1.2) among the general population in Belgium (5% last year use cannabis, 1.5% last year use other illegal drugs) and among students in higher education (22.9% last year use cannabis, 3.2% last year use cocaine as highest prevalence), it is clear that this group of party people is more drug experienced than in the general population.

In Chapter 4 we explored changes in illegal drug use. It appears that “Drug fashions come and go” (McCambridge, Winstock, Hunt, & Mitcheson, 2007, p. p. 63). Based on our analysis we can conclude that the use of most illegal substances are changing over time.

Ecstasy was the only drug in this study that showed a decreasing trend in use, as confirmed by international data (EMCDDA, 2009). Measham (Measham, 2004) argued that ecstasy pills were undergoing a shift from their sub cultural iconic status as the ‘cultural signifier of a generation’ to a cheeky supplement to a night’s drinking. This does not mean per se that the quantity of ecstasy consumed by users also diminished.

The odds of using cocaine increased with each survey year, which could indicate that it is becoming more widespread. This could be due to the increase in availability and the decrease in the price of cocaine, making the drug more easily attainable (Decorte & Slock, 2005; Riley & Hayward, 2004).
Last-year cannabis use showed an increase over the years in certain groups, e.g. the odds of cannabis use last year for non-dance music lovers almost reached the level of the dance music lovers. This might reflect the phase of ‘use by mainstream group’ in which everyone at risk of using the drug practice has either initiated its use or at least had the opportunity to try it (Nabben, 2010). An increase in the use of GHB was detected over the four survey years. Also, in the UK, the use of GHB increased in a sample of dance drug users over a five-year period (McCambridge, et al., 2007). According to the phases of Golub et al. (Golub, Johnson, & Dunlap, 2005) it seems that GHB is in the incubation phase, in which a limited subpopulation uses this substance. Given its potential for overdose (and the thin line between aimed effect and overdose) and other harmful consequences (McCambridge, et al., 2007) it would be unlikely to be used widely (EMCDDA, 2002). The use of amphetamines in the nightlife scene did not change over the years in the present study. According to party people this illegal drug is needed to give energy and keep awake during the nights out (Van Havere, Donder, Geirnaert, & Schrooten, 2008). This might be the reasons why no changes are seen in the use of this drug.

7.2.2 The influence of age, gender and nightlife patterns in drug use

The data of the surveys were also useful to look at the influence of gender, age and patterns of going out: the frequency of going to certain nightlife venues in the previous month (such as, pubs, clubs or goa parties); listening to rock music, dance music or southern and funky music; or sampling venues (such as, clubs, dance events or rock festivals). How do these personal and nightlife variables influence the use of popular drugs like alcohol, ecstasy, cannabis, cocaine and amphetamines?

The data of 670 respondents in 2005 (Chapter 2) shows that illegal drug use increases in younger age groups and decreases in older age groups. This might be linked to maturity and changing life circumstances with the result of cutting down or abstaining from drug use or drug repertoires (Measham, et al., 2001; Plant, Plant, & Mason, 2002). These results support the theory that adult life events can significantly alter criminal pathways (Laub & Sampson, 2001). However, the initiation of substance use is progressively taking place at younger ages, with the trend being more dramatic among women as compared to men (EMCDDA, 2006; Riley, James, Gregory, Dingle, & Cadger, 2001; Zilberman, Tavares, & El-Guebaly, 2003). Early users are more likely to have a prolonged desistance (DeWit, Hance, Offord, & Ogborne, 2000).

Various studies in the club scene have shown that men are more likely than women to use illegal drugs (Measham, et al., 2001; Parsons, Halkitis, & Bimbi, 2006), although these gender differences may vary across countries and regions. In our study men still use drugs more often than women, but the gender differences seem to decrease. The narrowing gap between men and women can be explained by some general
changes in women's lives. Since women started to work outside the home, they have gradually adopted male values and behaviour patterns, and their freedom as individual consumers has increased. Various social mechanisms interact with gender, such as the difficulties of having a double role in society as a woman (Holmilä & Raitasalo, 2005).

Research in the nightlife scene over the last decade has focused almost exclusively on the association between electronic music and ecstasy or other stimulant drug use in clubs (Adlaf & Smart, 1997; Forsyth, Barnard, & McKeeganey, 1997; Ter Bogt & Engels, 2005). Within the data of 2007 (775 respondents) we examined a broader spectrum of nightlife, beyond dance music (Chapter 3).

The use of substances was not linked exclusively with the reported frequency of visiting clubs or preference for dance music, but it was associated with a more expanded nightlife environment. Also respondents who frequently visit pubs are more likely to have used alcohol and illegal drugs frequently. However, illegal drug users are more likely to report that they like dance music and frequently “go clubbing”. Notably, reported preferences for rock music and being recruited at a rock festival, in contrast with other music styles or venues, appeared to be protective factors against substance use. Furthermore, there are still some sub scenes in which illegal drug use plays a more prominent role, although the notion of distinct subcultures may be outdated (Gourley, 2004). Mulder et al. (2009) have also found that a preference for non-mainstream music was positively associated with substance use, while in a study by Measham and Moore use of drugs during the previous month was highest among hard dance visitors (Measham & Moore, 2009). In our study, participants who reported attending goa parties within the last month appeared to have had even more experiences with drugs than those who reported liking dance music. This finding was the start of a qualitative study in this sub scene (Chapter 5).

7.2.3 An insiders’ perspective: solidarity and open communication as preventive measures

From the surveys it became clear that there was a sub scene in the electronic dance music scene (EDM), the goa scene, which even had more experience with illegal drug use than other clubbers. In fact, 8 out of 10 goa partygoers had used an illegal drug during the last year and were five times more likely to be illegal drug users (Chapter 3). More specifically, going to goa parties was found to be a predictor of more frequent use of cannabis, amphetamines and cocaine. According to a study in 2005 (Van Havere, 2006), the odds of goa party visitors using illegal drugs were 20 times higher than the odds of non-goa party visitors using illegal drugs.

Therefore, a qualitative study by means of in-depth interviews was set up to explore the role of illegal drug use in the goa scene and to identify preventive measures party
goers take to minimise the harm of using drugs (Chapter 5). In total 19 goa visitors were willing to participate in this study.

Their insiders’ perspectives revealed that using and combining (psychedelic) drugs is highly tolerated by visitors, although narrowing the goa scene to illegal drug use is not correct. This scene is also characterised by the music psytrance (a sub-genre of EDM) and elements of the hippie culture (fluorescent decorations, specific clothing). This scene grew from the psychedelic hippie cultures and shared values referred to as PLUR (Peace, Love, Unity and Respect) (Van der Elst, 2009; Van Havere, et al., 2008) are still part of the scene. However, many original values are neglected by the newer generation. The more recent focus on individualism, one of the characteristics of neoliberalism, which is part of the actual society, stands in contrast with the collectivist discourse of the original psychedelic philosophy (Riley, Thompson, & Griffin, 2010). For the older generation freedom linked to a life style based on the original values, while in the younger visitors this freedom includes personal choices to use drugs in the weekends. Solidarity (e.g. looking out for each other) and bonding with peers are important values in the goa scene and are a form of social control and according to the respondents an important preventive measure. Solidarity is not only limited to persons they know, but also to unknown visitors of goa parties.

According to the goa visitors, a lot of responsible users can be found in this scene which is seen as a consequence of the open communication and the tolerance towards illegal drug use by users and non-users. This tolerance enables drug users to share knowledge and experiences (even with new substances) and increase more responsible use. Pennay and Moore (Pennay & Moore, 2010) conclude that this form of self-control is an attempt to manage the tension between stigma and pleasure by assimilative normalisation, a claim to continued membership of ‘normal’ society despite the use of drugs (Rodner, 2005). This responsible use is translated in the few acute problems which are being seen by the respondents. However, all mention long-term negative consequences of frequent illegal drug use.

7.2.4 Media as an important factor in the implementation of interventions

From the results of the previous studies it is clear that these recreational settings provide an opportunity to reduce and minimize the harm from the use of illegal drugs and excessive alcohol consumption. Because three interesting reviews on the outcomes of prevention and harm reduction initiatives in nightlife were published recently (Akbar et al., 2011; Bolier, Voorham, Monshouwer, van Hasselt, & Bellis, 2011a; Calafat, Juan, & Duch, 2009), we looked for a new angle to look at prevention and harm reduction interventions to reduce the harm of alcohol or illegal drug use in the nightlife environment. The nightlife arena is packed with electronic media possibilities and more
attention is given to the role of media in nightlife in the last decade. The overall aim of this study was to describe the effects and practicability of media components in alcohol and drug interventions in the nightlife environment to stimulate health and social workers to include electronic media as a tool to target their audience and support the preventive intervention (Chapter 6).

For the purpose of this study we conducted a literature search which resulted in the inclusion of 14 peer-reviewed articles. It can be concluded from this review that the least promising actions towards effectiveness are the social marketing campaigns (such as ‘Think before you buy under -18s drink’ (Kypri, Dean, Kirby, Harris, & Kake, 2005)) that are not framed in a wider intervention design. However, these campaigns can be a very effective measure when they are implemented together with community actions (Calafat, et al., 2009; EMCDDA, 2008). More valuable effects are seen when combining social marketing strategies with media advocacy, but also when only media advocacy is implemented in combination with other components (such as the BOB campaign in Belgium). Even though outcome indicators are very diverse, we find reported effectiveness for all multi-component studies that include media advocacy, especially when media attention covers enforcement actions (Akbar, et al., 2011; Bolier, et al., 2011a; Calafat, et al., 2009). Training health and social workers how to deal with media can result in an increase of sensible media coverage. How these media activities contribute to the effectiveness of the desired outcome however is still obscure and could not be established in this review.

7.3 Implications for the nightlife setting and its different implementation levels

Four studies in this dissertation analyze the situation of young people in the nightlife scene (Chapter 2-5). However, analyzing the situation is not the goal itself; an action science as pedagogical sciences integrates these data in an imperative cycle to evolve to pedagogical action (Broekaert, De Fever, Schoorl, Van Hove, & Wuyts, 1997). The conversion of variables to a statistical representation does not enable us to understand why shifts or patterns in illegal drug use are being seen, but the changes and evolutions seen in the prevalence of illegal drugs enable drug prevention and harm reduction initiatives to anticipate on possible trends and provide relevant information to possible user groups. Therefore, this chapter will integrate the results of the studies in recommendations for prevention.

7.3.1 Global focus on substance use in nightlife

The nightlife scene (festivals, clubs, pubs...) offers an excellent opportunity for health promotion, as it is possible to reach a large number of at-risk people in a short period
of time. From this dissertation we know that people who go out are more likely to use alcohol and illegal drugs. However, health and social workers should take into account when setting up prevention interventions that most recreational drugs users don’t get into trouble with their illegal drug use and often use for positive reasons. Drug use is part of the lifestyle of young people who go out and decreases with the increase of responsibilities. This is part of the identity of this group to be “economic citizens” in the neo-liberalism discourse, who pursue “controlled consumption is appropriate consumption” (Riley, et al., 2010). Moreover, not all young people who go out use illegal drugs, alcohol is more commonly used.

A good starting point for effective drug prevention is to understand users’ own perspectives. Listening to party visitors who take drugs and thinking of them as valuable sources of information will contribute to the revelation of experiences and concerns that are real to them (Rodner, 2005).

Before going into detail we have to acknowledge that information-based approaches alone are not effective and strict abstinence-oriented messages are not realistic in party settings, neither are the interventions which target problems of chronic heroin addicts (EMCDDA, 2006). Implementing isolated and short social marketing campaigns should be avoided (e.g. information campaign which uses flyers, gadgets, posters). These interventions can be effective when implemented with other intervention components and use different channels to target their audience.

Substance use prevention should start from the premise that drug use is deeply-rooted within certain scenes (cf. goa scene). How pleasure can be incorporated into harm reduction should be central to the future development of policy and practice (Pennay & Moore, 2010) or even harm reduction messages might be rejected by more frequent users.

Person focused prevention and harm reduction
To address recreational, non-dependent drug users, messages such as “Just say no” are unlikely to have much impact and it is more realistic to reduce or minimize harm (Akram & Galt, 1999). Sumnall et al. (2010) suggest that hedonistic young people should be targeted with messages that increasing healthy choices will lead to more years in which to experience happiness and fun. This is related to the ultimate long-term goal of this dissertation: improving the quality of life of people who go out which is very crucial in orthopedagogics.

From the study on goa parties we learned that open communication and a non-judgemental attitude towards the use of drugs can have preventative effects. Sharing experiences on illegal drug use with others can be included in peer support interventions which often involve recreational drug users themselves. But also when
having troubles users shouldn’t be reluctant to address a first aid service or call for help. This can only be fulfilled when they know professionals will be helpful and not judgemental. Interventions should take into account the important values for party people. This might differ between groups (cf. collectivism versus individualism). Therefore, initiatives taken in this scene will be better if they involve the party visitors themselves (Bellis, Hughes, & Lowey, 2002).

For the group of young people who go out selective and indicated prevention is needed. Health and social workers should distinguish between men and women in their prevention messages. Although the gap between men and women is narrowing, there still is a gender-specific difference. An attendant concern are the results of Rossow’s research (2005) in which increasing substance use of girls in puberty and adolescence is related to an increase in the prevalence of suicide attempts. Therefore, messages should include the focus on global mental health.

This suggestion to include psychological topics is not only of importance for female users, but also for the group of frequent users (cf. goa parties) were long term consequences are also seen. Clear messages about associations with physical and psychological problems are needed for this group. Prevention efforts should account for contextual and motivational factors — particularly the issues of pleasant and unpleasant times in the lives of young adults — in order to reduce its associated adverse outcomes (Kelly & Parsons, 2008). For this purpose indicated prevention is needed (cf. Kosmicare, self help tools).

The distinction between occasional and regular users should be made in all intervention efforts. Global social marketing campaigns or mass media campaigns will not be very effective in reaching this different target groups. Alternative social marketing strategies, like peer-based interventions, mobile phone applications or social network websites, could be more effective in reaching this at-risk group of party people (van Gemert et al., 2011). The new media technologies offer opportunities for selective and indicated prevention. Users at risk of problem use can be redirected to an online tool which includes web-based personalised feedback and social norms. Bewick et al. (2008) not only found that online interventions are accessible and of interest for a population of young people, but also noticed a change in individual drinking behaviour. Furthermore, the new technologies offer the opportunity to develop attractive and creative prevention messages. Another possibility is that mobile phone games can stimulate reflecting on using drugs and driving.

If health and social workers want to reach the audience aimed for, it could be of interest to look at the marketing strategies of the industry involved in nightlife. Marketing companies are more likely to invest in new and attractable strategies to advertise their brands.
Environmental prevention and harm reduction

Recently, more attention is given to the production of guidelines for environmental strategies (EMCDDA, 2006). Environmental strategies in clubs and dance events are also believed to have the potential to develop effective drug prevention strategies (Miller, Holder, & Voas, 2009). Targeted prevention in various recreational venues tailored to the specific needs of the setting and its visitors is necessary.

Although illegal drug use is limited at rock festivals health and social workers should take into account that alcohol and cannabis use is frequent used at these events. Even more, music festivals may serve as an occasion for trying cannabis for the first time, and are therefore important targets for the prevention of cannabis use onset (Hesse, Tutenges, & Schliewe, 2010). The use of alcohol and/or cannabis in combination with the summer heat and other circumstances might cause health problems. Free water can minimize these risks.

Also in pubs the use of illegal drugs is seen, mostly in combination with alcohol. Therefore, alcohol and drug prevention should also focus on these premises. With the cooperation of pub owners, bartenders and bathroom personnel, very structured prevention and safety measures (e.g. staff training programmes) can be used to reach pub visitors (cf. 7.3.2).

In clubs and events possible prevention and safety measures could include: 1) providing free water; 2) setting up an information stand on illegal drug use (e.g. by a peer support organisation); and 3) setting up a “chill-out” area where people can go when they have a bad trip. The latter can be an area where it is cooler and slower music is played (e.g. in the club), but can also involve professionals to monitor basic health indicators or volunteers who are educated in reacting to a bad trip (cf. Kosmicare at Boom Festival Portugal).

Peer support interventions can be valuable. A recent evaluation of a peer-led intervention in Australia has suggested that peers are seen as credible sources of information and that messages delivered are remembered up to three months later (Degenhardt et al., 2009). Peer support can be introduced at dance events, festivals, goa parties...

At events that last a whole weekend (day and night), designating peers to check whether people who appear to be sleeping are sleeping and not unconscious could be of importance. At some events (cf. goa parties) bringing your own food and drinks is allowed. This is also an important preventive measure, because financial reasons might hold back people to drink non-alcohol drinks and eat regularly. Moreover, serving food is associated with less violence (Homel & Clark, 1994).
To avoid problems within the neighbourhood it can be recommended to take precautions to not delivering nuisance to surrounding areas. This can result in a meeting with the direct neighbours, inviting them for a pre-tour on the festival premises, giving young inhabitants a discount on tickets or handling out flyers with a phone number to contact when experiencing problems.

Collaborations with party organisers or club owners should be developed in order to set up prevention activities. This can also stimulate the cooperation with official authorities like the police, first aid services and the local government. Organisers might be willing to take some precautions if you take into account their perspective (good image and attract lots of visitors). There is some debate on working with the (alcohol) industry. Health and social workers should be aware of the pitfalls, but also opportunities can be seen. An ethical discussion and conclusion on this topic should be debated before working together with the alcohol industry.

Policy and enforcement can be preventive measures when implemented correctly. Clear rules in a club on the use of alcohol (e.g. underage drinking) and illegal drugs can be presented at the website and/or the venue itself. Stimulating the visitors to come by public transport or planning collective transport to the event or party can be part of the prevention policy of owners and organisers. Existing legislation can be the framework for a tailor-made policy. Although managers of premises and health and social workers might be reluctant to work together with the police, enforcement shows promising effects when looking at decreasing injuries. Especially when enforcement is notified in the media (Bolier, Voorham, Monshouwer, van Hasselt, & Bellis, 2011b). However, we should also take into consideration that a cooperation with the police can hinder the credibility of the own prevention organisation. The distinction in function should be made clear for the visitors so they cannot accuse the health and social workers of having a hidden agenda. Constructively working together with authorities, police and other (local) services can be fruitful in handling with problems related to nightlife.

Substance focused prevention and harm reduction

Interventions can also focus on the substance used or on the combination of different illegal drugs or alcohol and illegal drugs. More information on the effects of combinations should be available, especially the combination with alcohol or cannabis (most commonly used in combinations). This information should be objective and not judgemental. Because this depends on the credibility of the organisation, peer support organisations can play an important role in delivering information.

Prevention initiatives should focus on those who are not (yet) using cocaine, because there is still a group of party people who do not use cocaine. Social norms messages can include the rectification that cocaine is used by everyone. However, there is also
a need for harm reduction projects in the nightlife scene, for example, peer support projects or information campaigns on possible risks (e.g. risks of combining alcohol and cocaine) for party people who are already using these substances. The combination of alcohol with high doses of amphetamines and cocaine might increase risk-taking and may result in inappropriate and dangerous driving behaviour (Albery et al., 1998), although some may believe they are in control and able to drive a motor vehicle after a night of drug taking (Degenhardt et al., 2006). More objective and realistic information to rectify possible myths should therefore be included in prevention messages. As said before, social norms messages could be helpful to support this information. Furthermore, prevention messages should include information on the use of GHB, especially in combination with alcohol, as this combination may induce depressed breathing and unconsciousness. This prevention can be realized on the individual level as well as on the general level.

To establish contact with recreational drug users in the nightlife scene, on-site pill testing can be very valuable and effective (Benschop, Rabes, & Korf, 2002). However, on-site pill-testing is now becoming less popular in Europe, and even in pioneering countries such as the Netherlands this type of on-site intervention is no longer used. The main arguments against pill-testing are the limited capacity of on-site tests to accurately detect harmful substances, the poor cost benefit ratio, and the fact that allowing on-site pill-testing sends out contradictory messages about the risks related to both the use and possession of controlled substances (EMCDDA, 2006). Alternatives could be analysing waste water and registration of experiences at emergency departments (see 7.4).

7.3.2 Alcohol in the spotlight

Prevention interventions in nightlife settings focus mostly on illegal substances, but more attention on alcohol as a party drug and on the combination of alcohol and illegal drugs is needed in this setting. Different laws limit the serving (to minors and intoxicated persons) and drinking of alcohol (cf. drink-driving). Nevertheless, an increase of alcohol use among the group of first aid visitors at big dance events is seen, physical aggression and violence is related to excessive alcohol consumption and a substantial number of young adults still drive under the influence from one club to the other or when going home (Degenhardt, Dillon, Duff, & Ross, 2006; Graham et al., 1998; Pijlman, et al., 2003; Rossow, Pape, & Wichstrom, 1999). From a recent study in Belgium on government expenditures it can be concluded that prevention for legal substances is limited (Vander Laenen, 2012).

Interventions can be implemented on different levels. Targeting shops (e.g. night shops) and venues (e.g. bars, clubs) start with informing premises which sell alcohol about the existing legislation. Media coverage on this topic can play an important role.
Furthermore, bar staff training on responsible beverage service (RBS) can increase the skills of personnel. Training of staff has been one of the most widely implemented types of intervention for reducing problems in the venues. However, the effectiveness of these trainings is inconclusive. Some studies see positive effects on the serving behaviour of personnel, but the influence on long term change is questionable. Certainly when trainings are implemented solely (Calafat, et al., 2009).

Stimulating management to be critical to alcohol marketing strategies and think about non-alcoholic drinks or serving free water are other interesting suggestions. However, it must also be taken into account that cooperation from venue managers is often difficult to obtain, unless the scheme is mandatory or there is strong social pressure (Calafat, et al., 2009).

On a more individual level other alcohol related interventions are already being implemented in the nightlife scene. One of the most popular interventions is that of the designated driver. This is a measure strongly supported by the recreational industry (Calafat, et al., 2009). Contact with the industry can stimulate the management to offer free drinks or other incentives for these drivers. Emancipatory prevention should focus on increasing the knowledge about the effects of combined use of alcohol with illegal drugs which might alter the behaviour of drug users. Already it seems that clubbers are less frequent drinkers when using drugs; probably to prevent health problems (Van Havere, Vanderplasschen, Lammertyn, Broekaert, & Bellis, 2011). Campaigns outlining not only the effects of drugs on driving behaviour, but also how long the drug can be detected and information on legislation regarding driving under the influence are relevant for partygoers.

7.3.3 Referral to treatment

As said in the introduction of this dissertation some users get into trouble with their drug use. It is of importance to intervene as early as possible in the group of problem drug users to prevent escalation. In the nightlife scene an increase is noticed in cooperating with first aid services in the organization of parties and events. Being informed about trends in the nightlife scene can help first aid services at events or clubs to improve the accuracy of their physical assessments. In addition, improved training for medical staff could enable visitors suffering from drug intoxication to be appropriately assessed (Wood et al., 2008).

Treatment of physical problems is regarded as a good moment to refer persons to substance abuse treatment, but usually linkage between emergency departments and alcohol and drug treatment services is poor and not monitored (Vanderplasschen et al., 2002). Case management may help to improve linkage to needed services and to reduce re-hospitalization (Vanderplasschen et al., 2007).
Other early interventions should be considered to target the group of problem drug users. For instance, messages targeting drug users who are worried on their own or friends' drug use can include a referral to a help line or internet tool which gives personalized feedback. The internet gives opportunities to screen possible problem users and even to provide self-help tools which are generally more accessible for recreational drugs users than formal treatment possibilities. Classical treatment is mostly considered to be the last resort when experiencing problems. Users who consider themselves recreational users will not identify themselves with chronic addicts in treatment centres. Therefore, more alternatives should be looked at, e.g. ambulant group sessions or online (self) help groups.

### 7.3.4 Evaluation of interventions

From this dissertation we can conclude that few prevention and harm reduction interventions in nightlife are being evaluated. The reason for this is often the lack of financial resources and methodological difficulties. High quality evaluation research includes experimental designs and the gold criteria which is often difficult to obtain in the field of prevention and harm reduction interventions. However, health and social workers are under pressure to select interventions which are evidence-based, consequently there is a need to fill this knowledge-gap (Akbar, et al., 2011). A good evaluation and therefore, working evidence based starts with working systematically and according to a plan which are important quality standards for prevention (Scheerder, Van den Broucke, & Saan, 2003).

Different models to develop an intervention exist (e.g. PERK from the EMCDDA; handbook Prevention of the Pompidou group). In the orthopedagogics the regulative cycle from Van Strien (1984) is often used (Broekaert, et al., 1997). The VAD developed its own instrument, namely I-Plan 2.0. In general, the same steps are repeated in every model: defining and analyzing the problem (if applicable making a diagnose), planning and developing, implementing and evaluating the intervention (Broekaert, et al., 1997; Calafat & Pompidou Group Prevention Platform, 2010; VAD). Whether “improvement through educational practice” (Broekaert, Van Hove, Bayliss, & D’Oosterlinck, 2004) is achieved by the combination of interventions should be part of the evaluation phase.

Already in the planning phase an evaluation plan should be developed. A distinction can be made between process and product evaluation. Process evaluation focuses on the implementation of the intervention. When starting the implementation of an intervention it is of importance to monitor the activities. This is a crucial step in assuring the quality of the intervention. If the resources available for an intervention are too scarce to allow a significant outcome evaluation to be carried out, it is even more important to prove through process evaluation and program monitoring that a proven approach (i.e. one already successfully evaluated elsewhere or confirmed in
research literature) has been correctly implemented so that a positive effect can be assumed. In this phase the implementation can still be adjusted and more efforts if necessary can be taken to reach the targeted audience (EMCDDA, 2010).

Product evaluation is more difficult to obtain. However, local government or politicians are especially interested in the effects on the targeted behaviour. Product evaluation should take into account intermediate and final changes, instead of focusing solely on final behavioural changes of drug users (EMCDDA, 2010). Different designs are possible and will depend on the resources available. Having a control group and pretest/posttest is already a big step in the good direction.

7.3.5 The state of affairs in Flanders

Before going into detail it can be concluded from a recent study that prevention and harm reduction are not the priority according to the public expenditure in Belgium. To illustrate the under presentation: of the 91,41 euro for the global drug policy per Belgian inhabitant 1,24 euro is spent on prevention and 0,22 euro on harm reduction. If we look even further to harm reduction in nightlife in Flanders, it is clear that only two cities receive financial support for their interventions (Vander Laenen, 2012). The Ginger registration system – a registration system on alcohol and drug prevention – shows fluctuating numbers of prevention activities in the nightlife setting: in the sector leisure and culture it accounts for 15,4% in 2009, 11,8% in 2010 and 17,7% in 2011. The content of these activities is changing: while in 2009 the focus was on targeting the young people who go out, in 2011 more activities can be found in the category of consultations (Rosiers, Autrique, De Bock, De Maeseneire, & Geirnaert, 2012).

To look at the status of alcohol and drug prevention in nightlife we will discuss the categorization of interventions introduced by Calafat et al. and the EMCDDDA (Calafat, et al., 2009; EMCDDA, 2006). It is our recommendation to focus on multiple strategies and levels of implementation according to the problematic situation. From an orthopedagogical approach law enforcement is not a priority over health issues. More important are the interventions which stimulate personal development.

The first category of implemented interventions in Europe is targeted at venues. Bar staff and management training appears to be regular implemented in the nightlife (Calafat, et al., 2009). In Flanders VAD organizes train-the-trainers for implementing trainings in first aid, but also in giving consults to the management or speaking to personnel. ‘HoReCa Vlaanderen’ (a member organization of premises/venues in Flanders) has a code of practice on house rules on alcohol supported by an alcohol campaign on the legislation on underage drinking and training for servers. In some cities limited opening hours are imposed by the local government. However, a global restriction on opening hours like in the UK doesn’t exist in Flanders. Moreover, evaluation results on restricting opening hours are mixed (Calafat, et al., 2009).
In Flanders, every venue should be checked by the local fire department on the maximum visitors allowed (part of a global prevention report). However, in practice few venues will count their visitors (except for big events). Clubs and pubs are stimulated by local authorities or prevention workers to think about physical and contextual measurements. This results in a glassware policy in several clubs or at parties in Belgium. Smaller venues like bars are reluctant to serve water for free. A price policy with lower prices for non-alcoholic beverages is therefore stimulated.

A much debated measure in Flanders in this category is the control of sound. From 2013 a new legislation will be implemented for music activities (including concerts, music events, parties...). The music sector and young visitors of music activities have demonstrated against this new legislation which resulted in some adaptations.

On-site drug testing is not available in Flanders. However, in the French community the legislation allows drug testing at festivals and off-site testing organized by Modus Vivendi.

Other measures like serving free water and organizing a chill-out are implemented at big events like ‘I Love Techno’. At this last large scale dance event in Ghent also a relax zone is introduced (Breakline, Vitalsounds, VAD in cooperation with the city of Ghent). People who are feeling unwell from drinking or using too much drugs can unwind in this peaceful area closed from the hustle and close to the first aid services.

Globally taken, in the last years more attention is given to the development of guidelines of environmental strategies for venues in Flanders (Van Havere, 2007).

Multi-component interventions have generally been proven to be effective, although it is difficult to identify the effective components (Calafat, et al., 2009). In Flanders prevention in nightlife tries to stimulate the implementation of a drug policy in venues or local authorities which includes education, rules, structural measures and first aid services. Several prevention workers cooperate with owners to introduce and support the developing of such a drug policy. Nightlife interventions which involve the broader community (school, local services) are less commonly implemented than in the USA or in Australia.

A frequently implemented form is ‘education’ in patron education, in-school education and peer education (Calafat, et al., 2009). A famous example in the prevention field is Partywise with flyers, gadgets, displays, websites... targeting patrons in the nightlife. Also school prevention is common in Flanders. One example which is implemented and evaluated internationally is Unplugged (De Sleutel). It would be interesting to include recreational nightlife prevention among the objectives of these school interventions (Calafat, et al., 2009). In European nightlife, the use of peers in
interventions in recreational settings has been quite popular. In the Flemish nightlife regional peer support organizations are known: Vitalsounds in the region of Menen, Breakline in Antwerp and Partypeers which involves the former two peer organizations and Partywise. According to an evaluation of Breakline their offer is more appreciated at festivals. For clubs it will be more effective to implement structural measures (cf. Quality Nights will be implemented in Antwerp) (De Smet, 2011).

Most young people surf on the internet, so it is not surprising that ‘internet interventions’ are also a category of implemented interventions in the nightlife (Calafat & Pompidou Group Prevention Platform, 2010; EMCDDA, 2006). Most mass media campaigns also include a webpage for the targeted audience. Sometimes this might be focused on the general population like ‘Party!’ , an alcohol campaign (VAD). Other are focused on illegal drug users among the party people, e.g. cocaine campaign in Partywise, self tests at the DrugLijn-site.

Medical problems related to nightlife occur; therefore, interventions targeting ‘emergency rooms, medical and first-aid services’ are covered in Europe too (Calafat, et al., 2009). The project ‘Alert’ which focuses on people brought in under the influence of alcohol is recently set up in a hospital in Antwerp. Also the European project with a Belgian coordinator (VAD) eSBIRTES’ is a new project in this area (cf. 7.4). Furthermore, an increasing amount of organizers introduce first aid services at their events. Sometimes this is made obligatory by local authorities.

The next category in the review is ‘licensing, law enforcement and underage control’ (Calafat, et al., 2009). In Belgium, alcohol can be sold in night shops, supermarkets and petrol stations (limited). However, restrictions in this area are currently debated. There is a clear legislation on selling to minors: it is forbidden to sell, serve or offer alcohol to – 16 year and spirits to – 18 years (new legislation of 31st December 2009). In recent years more initiatives are taken to increase awareness and knowledge. A very recently implemented campaign on underage drinking is ‘Don’t start too early’ from VAD. The debate on selling alcohol in night shops and in the context of that the regulation of opening hours of night shops in some cities is still continuing.

Control in this area is very limited and even nonexistent. Law enforcement on drinking and driving is more commonly seen. The Bob campaigns of the BIVV increase awareness on drinking and driving.

The ‘environments, neighbourhood (e.g. transport, lighting)’ are also focused on in the interventions because the nuisance to the surrounding area of the event (Calafat, et al., 2009). Responsible Young Drivers will take action on special occasions (e.g. nights without accidents, New Years Eve), but also some local government work together with public transport on night transport to or from an event. Stewards can be
obligated when organizing an event or party. These persons stimulate visitors to keep the nuisance to the minimum.

Another category which is often an object for debate is ‘policing; collaborating with the industry’ (Calafat, et al., 2009). Collaborations between the local authorities and the leisure industry has been set up in Flanders, e.g. staff training, cooperation with the police or first aid services... The project Quality Nights in Brussels and the French community (Modus Vivendi) is a good example of such collaboration. Furthermore, it seems that in prevention activities in Flanders recently more attention is given to cooperating with the leisure industry (Rosiers, et al., 2012).

‘Alternative programs’ refer to programs and events at which alcohol, tobacco and illegal drugs were excluded and in which participation was voluntary (Calafat, et al., 2009). No such interventions with the goal to reduce the use of legal and illegal drugs in Flanders are known by us.

Because of the importance of nightlife in young people's lives another category of interventions are the ‘cultural approaches’ (Calafat, et al., 2009). Neither in Europe or in Flanders are such interventions known which genuine question this recreational culture. On the contrary prevention messages are based on a strict respect for the actual recreational rationality.

Classical prevention measures like increasing the price of alcohol, (self)regulation of marketing and promotion of alcohol are implemented in Belgium. The ‘Arnoldus agreement’ contains a number of provisions to practice responsible marketing and advertising of alcohol beverages, including no targeting of minors and any portraying minors or pregnant women in advertisements. Findings from the alcohol and tobacco literature underline the power of regulatory approaches, including taxation and conditions of sale, in limiting the harm from substances (Room, 2006; WHO, 2011). However, these interventions might be less effective in regulating illegal drugs (Room, 2006).

In conclusion, in Flanders some progressive steps are taken in the field of alcohol and drug prevention and harm reduction in the nightlife scene. However, it seems that more attention should be given to multi-component approaches which focus on the local level. Positive evolutions are seen in the actual debates on legislation (e.g. alcohol) but also on cooperating with the leisure industry. Opportunities on working together with brands should be looked into. When looking at the expenditure on prevention and harm reduction in Belgium, it is clear that there is still an under presentation and more structural financial resources should be available to develop new initiatives and evaluating them. Different prevention services from Belgium are already cooperating in projects and it would be interesting to develop a nightlife competence centre
General discussion

(Practice, research and policy) which supports interventions taken in nightlife and collects expertise.

7.3.6 Orthopedagogical implications

Following the orthopedagogical approach this dissertation has a practice-oriented character directed towards action (Broekaert et al., 2004). As we demonstrated before, we looked for an improvement for those who are going out and using legal or illegal drugs. Whatever the needed interventions may be to result in improvement, it has to be the exponent of a meaningful, significant flexible process of a methodical and systematic search or action for an expected valuable solution, free of dogmatic premises (Broekaert, Autrique, Vanderplasschen, & Colpaert, 2010). In this dissertation we managed to put forward a mix of methodologies which were dependent on the research questions. The data resulted from the different studies evolved into pedagogical action by formulating suggestions for intervention on the reduction of alcohol and illegal drug related harm within the nightlife scene. The best answer to the question how party people keep out of trouble should include switching between different paradigms. This might mean that sometimes prevention of drug use is the best solution in certain situations, while in other situations this might be harm reduction. Not only can we introduce different paradigms, we should also look at different levels of implementation (cf. micro, meso, macro level), sorts of interventions (cf. person, substance focused or environmental strategies) and target groups (cf. party people, leisure industry...). For every situation we let these interventions alternately go together to result in an improvement for the final target group (party people who (might) use drugs). In this sense, we will work eclectic, not choosing one approach, but looking at effective components tailor-made to the problematic situation.

Each situation should be analyzed carefully before planning the intervention. Health and social workers should search for a fruitful interaction of different interventions. Moreover, the integration of multiple components in one program already showed positive effects (Calafat et al., 2009). The evidence-based approach stimulates to involve effective components in the action. However, this should not lead to a reduction in creative and experimental projects which are not (yet) evaluated.

As mentioned before interventions should be maximal offensive, develop integrated measures, work participative and have a democratic character. Emancipation is very important in this context. The goal of the interventions should be the personal development and improvement through educational practice. In the phase of planning and developing and looking for the best intervention(s) it is recommended to involve party people themselves. This users’ perspective is of importance to integrate important values and develop tailor-made interventions.
When looking for improvement it will be necessary to evaluate every step in developing the action. When doing so, redirections can be made immediately where necessary. The solution found will always be questioned again. This might also result in a constantly changing approach. This dynamic is essential for orthopedagogical action (Broekaert, 2009).

7.4 Limitations of the study and recommendations for future research

The limitations of each separate study are already discussed in the specific chapters. In this section, we want to focus on the most important overall limitations of this dissertation and propose some recommendations for future research.

A first limitation is the lack of generalization of our data to the whole population of young persons who go out. No figures are known about the number of people who go out every weekend and the increase during the summer time. A more appropriate method for studying party people would be conducting a survey for an entire year at various venues. In addition, the use of online surveys would allow researchers to reach more respondents, although this could raise other methodological issues, like the problem of double counting or the representativeness of the study sample.

Secondly, respondents in the different studies were Dutch speaking Belgians. However, the nightlife is characterized by an international audience, especially at big events. We were not able to include these ‘tourists’, although they influence the drug market and the illegal drug use in Flanders too. Translating the questionnaire in different languages could solve this issue. However, this might introduce a new problem of linking answers to different drug policies in surrounding countries.

In this context further comparative research would be interesting in comparing different countries and looking for differences and similarities. Therefore, we will participate in the Global Drug Survey which is newly introduced in 2012. Their aim is to globally implement an internet-based survey on illegal drug use. With these data they want to inform individuals and communities about how substances are really being used, and explore their relationship with drug policies and the community evolutions. This is done by on-line anonymous cross sectional surveys. These self-complete surveys tailor themselves automatically based on an individual’s responses to an initial drug use screen (http://globaldrugsurvey.com/).

Thirdly, if the questionnaire could have been longer, more interesting questions could be asked. For instance, more information on psychological and sociological variables could be interesting to include in the various statistical analysis. Especially, in the group
of female users and frequent users this might give more insights (DeWit, et al., 2000; Yeh, Chiang, & Huang, 2006). This could give more information on characteristics of young people who cross the line from recreational drug use to problem drug use. As a result more tailor-made selective and indicated prevention could be developed.

A fourth limitation is the lack of an evaluated intervention included. It would be of interest to develop and implement an intervention in nightlife and set up a thorough evaluation with a pretest/posttest design.

A recommendation we want to make is that more evaluations of interventions should be conducted. Experimental projects are being implemented at this moment, which could benefit from financial and academic support to evaluate these actions. If the resources available for an intervention are too scarce to allow a significant outcome evaluation to be carried out, it is even more important to prove through process evaluation and program monitoring that a proven approach (i.e. one already successfully evaluated elsewhere or confirmed in research literature) has been correctly implemented so that a positive effect can be assumed (EMCDDA, 2010).

Because of the dynamic character of nightlife and its role in the dissemination of new substances longitudinal research should be stimulated. Crossing these data with other resources, like analyzing waste water (from cities or nightlife venues), could give a more global insight in the evolutions (Reid, Langford, Morland, & Thomas, 2011). For example, it is not clear at the moment whether mephedrone use is widespread in Flanders. Other new drugs (legal highs, research chemicals) should be watched closely. Another initiative to be updated on the drug market is pill-testing. Monitoring new substances by pill testing has already been proven to make important contributions to alerts and early warnings about new drugs (EMCDDA, 2006). Also emergency departments are often confronted with new substances in or on their patients. As such they can be an interesting source of information too. Information on new substances collected through these initiatives can consequently be disseminated by the Early Warning System in Belgium and Europe.

The scene itself is also very dynamic and new groups of users might stand up. Qualitative information can give more insights in the role of illegal drug use that might be related to these new scenes.

This dissertation reviewed the role of media in interventions, but also in monitoring and other research new technologies can play an important role. Personal cell phones can be used to register alcohol consumption, e.g. pre-drinking (Kuntsche & Robert, 2009). At large events blue tooth tracking can result in analyzing mass movement (Versichele, Neutens, Delafontaine, & Van de Weghe, 2012).
Another recommendation can be made in the field of early intervention. Some party people get into trouble and should be detected as early as possible. New instruments on early intervention should be developed and evaluated as well as networking with treatment services. In this context an interesting European project is being conducted, namely eSBIRTES. The general objective is to identify and develop effective tools for Screening, Brief Interventions and Referral to Treatment (SBIRT) for young adults presenting at the Emergency Department (ED) with problems related to (poly)drug use. This project will be finalized in 2013. Furthermore, self-help tools might lower the threshold to enter treatment. Developing and evaluating these interventions is recommended.
References


EMCDDA (2009). *2009 Annual report on the state of the drugs problem in Europe.* Lisbon: EMCDDA.


VAD. I-Plan 2.0


Samenvatting
Samenvatting

Epidemiologische studies tonen aan dat uitgaanders meer ervaring hebben met het gebruik van illegale drugs dan de algemene populatie. Vermits er in België weinig tot geen informatie beschikbaar is over deze doelgroep is het belangrijk om de Vlaamse situatie te analyseren, zodat gepaste preventie en harm reduction initiatieven ontwikkeld kunnen worden voor deze uitgaanders.

Drugpreventie in het uitgaansleven kende de laatste jaren een enorme evolutie. Steeds meer aandacht gaat uit naar de groep van jonge mensen die gedurende de week hard werken en tijdens het weekend een time-out zoeken. Willen we de schade beperken bij deze jongeren die uitgaan en drugs gebruiken, dan moeten we eerst hun feitelijk druggebruik bekijken. Vooraleer interventies kunnen ontwikkeld worden, dienen we verder ook zicht te hebben op de factoren die dit druggebruik beïnvloeden. Het is hierbij belangrijk om ons niet te beperken tot het analyseren van de situatie, maar ook over te gaan tot actie. Daartoe zijn er in elk hoofdstuk praktische suggesties voor drugpreventie terug te vinden.

De visie bij deze doctoraatstudie houdt in dat druggebruik niet an sich problematisch hoeft te zijn in het proces van opgroeien van adolescenten tot (jong-)volwassenen. Gecontroleerd en recreationeel druggebruik is mogelijk zonder dat men hierbij in de problemen geraakt. We realiseren ons wel dat de lijn met problematisch gebruik heel dun is en dat het reeds fout kan gaan bij eenmalig gebruik. Met preventie- en harm reduction initiatieven trachten we te verhinderen dat jongeren in de problemen geraken of hun problemen verder escaleren. Op lange termijn willen deze interventies bijdragen tot een goede Kwaliteit van Bestaan. Centraal in deze studie staat het verkennen van het druggebruik en de karakteristieken van de uitgaanders, of deze uitgaanders in de problemen komen en hoe vermeden kan worden dat ze in de problemen geraken. Deze centrale doelstelling werd vertaald naar vijf studies.

In een eerste studie (hoofdstuk 2) werden 670 uitgaanders van clubs, dance events en rock festivals in 2005 bevraagd via een survey over hun druggebruik en enkele demografische gegevens. Hieruit bleek dat bijna alle respondenten (89.5%) alcohol dronken en dat bijna de helft (44.2%) van de uitgaanders minstens één illegale drugs had gebruikt in het laatste jaar. Het illegaal druggebruik ligt dus hoger dan bij de algemene populatie. Cannabis is de meeste gebruikte illegale drug gevolgd door ecstasy. Cocaïne en amfetamines worden door minder respondenten gebruikt en ook minder frequent. Het gebruik van GHB en ketamine wordt slechts marginaal gerapporteerd. Drie op de vier respondenten combineert alcohol met illegale drugs en bijna de helft combineert verschillende illegale drugs.

¹De term drugs wordt gebruikt als verzamelnaam voor legale en illegale drugs.
De data van deze survey werden ook verder bekeken op correlaties tussen leeftijd en geslacht aan de ene kant en druggebruik aan de andere kant. Hieruit blijkt dat illegaal druggebruik stijgt in jongere leeftijdsgroepen en daalt in oudere leeftijdsgroepen. We kunnen hierbij veronderstellen dat het afnemen van druggebruik te maken heeft met het krijgen van meer verantwoordelijkheden, zoals werken, een gezin,…

Verschillende studies hebben reeds aangetoond dat mannen meer geneigd zijn om illegale drugs te gebruiken dan vrouwen, hoewel andere onderzoeken dit tegenspreken. Uit de data van de survey van 2005 kan geconcludeerd worden dat mannen nog steeds meer drugs gebruiken dan vrouwen, maar dat het geslachtsverschil aan het verkleinen is. Dit kan te verklaren zijn door maatschappelijke evoluties waarbij vrouwen steeds meer mannelijke waarden en rolpatronen aannemen. Hoewel de vrijheid voor vrouwen vergroot is, zijn er ook steeds meer vrouwen die het moeilijk hebben om deze dubbele rol te combineren.

Onderzoek in het uitgaansleven heeft zich de laatste jaren bijna enkel gefocust op de link tussen elektronische muziek, clubs en ecstasy of andere stimulantia. In een tweede studie (hoofdstuk 3) werd er gekeken naar een breder nachtleven dan enkel de link met dance muziek. Hiervoor werd gebruikt gemaakt van de surveygegevens van 2007 met 775 respondenten. Uit de resultaten blijkt dat het gebruik van drugs niet beperkt is tot clubbers and dancemuziek liefhebbers, maar gelinkt is aan een breder uitgaansmilieu. Uitgaanders die rapporteerden dat ze frequent op café gingen, hebben meer kans om alcohol en illegale drugs frequent te gebruiken. Verder is het opvallend dat een voorkeur voor rockmuziek en gerekruiteerd worden op een rockfestival gelinkt is aan minder frequent middelengebruik. In de groep van illegale druggebruikers blijken er zich meer dancemuziek liefhebbers en clubbers te bevinden. Een bepaalde subscene binnen de elektronische dancemuziek vertoont nog een hogere prevalentie van illegaal druggebruik, namelijk de goa scene. Van deze groep van uitgaanders gebruikt er acht van de tien een illegale drug in het laatste jaar. Uit verschillende onderzoeken blijkt dat meer alternatieve, extremere muziekstijlen gelinkt kunnen worden aan een hoger druggebruik.


Ecstasy is de enige illegale drug die een dalende trend vertoont. Cocaïnegebruik daarentegen stijgt over de jaren heen wat er op kan wijzen dat het gebruik meer wijdverspreid geraakt. Mogelijks valt dit te verklaren door een grotere beschikbaarheid en lagere prijs. Het laatste jaargang van cannabis toont een stijging in bepaalde
subgroepen binnen de uitgaande respondenten. Niet-dancemuziek liefhebbers bereiken bijna het niveau van dancemuziek liefhebbers wat betreft hun cannabisgebruik. Hoewel het gebruik van GHB beperkt is, zien we toch een duidelijke stijging over de jaren heen. Het gebruik van amfetamines wijzigt niet over de jaren heen.

Zoals eerder vermeld bleek de prevalentie van illegaal druggebruik hoger te liggen in de goa scene. Om een beter inzicht te krijgen in de rol van drugs in deze scene en de preventieve maatregelen die deze goa-bezoekers nemen, werden kwalitatieve diepte-interviews afgenomen (hoofdstuk 5). Via de snowballmethode werden 19 goa-bezoekers bereid gevonden om deel te nemen aan deze studie. Vanuit het perspectief van deze betrokkenen was het duidelijk dat het gebruik en combineren van verschillende illegale drugs (voornamelijk psychedelica) getolereerd wordt door bezoekers van goafeestjes. Maar de goa scene is niet enkel gekend omwille van deze tolerantie ten opzichte van illegaal druggebruik. De muziek ‘psytrance’ en bepaalde elementen uit de hippiecultuur zoals de fluorescerende decoraties en opvallende kledij karakteriseren deze scene ook. Niet verwonderlijk, vermits ze gegroeid is uit de psychedelische hippiecultuur waar waarden zoals ‘Peace, Love, Unity en Respect’ zeer belangrijk waren. Deze waarden zijn niet van even groot belang meer voor alle goa-bezoekers. De nieuwere generatie focust meer op individualisme, wat past bij de huidige maatschappij met haar neoliberalistisch gedachtegoed. Deze staat haaks op de collectivistische visie van de originele psychedelische filosofie. Met andere woorden, voor de oudere generatie die nog steeds belang hecht aan de oorspronkelijke waarde, is het eerder een levenswijze, terwijl het bij de jongere generatie eerder om het maken van persoonlijke keuzes gaat waaronder gebruik van illegale drugs tijdens het weekend. Toch blijft solidariteit en de betrokkenheid bij peers voor beide groepen belangrijk. Hierbij gaat het niet enkel over vrienden die men kent, maar ook over andere bezoekers op de goafeestjes. Meer nog, deze waarden zorgen voor een vorm van sociale controle en zijn volgens de respondenten een belangrijke preventieve maatregel.

Volgens de goarespondenten zijn de meeste druggebruikers in de goa scene verantwoordelijke gebruikers als gevolg van de open communicatie en de tolerantie ten opzichte van illegaal druggebruik bij gebruikers en niet-gebruikers. Dit zorgt er namelijk voor dat kennis en ervaring rond druggebruik kan gedeeld worden. Dit heeft tot gevolg dat er weinig acute problemen te zien zijn op deze feestjes. Echter, lange termijngevolgen van frequent illegaal druggebruik komen in bijna elk verhaal voor.

In een vijfde studie (hoofdstuk 6) werd er aandacht besteed aan preventie en harm reduction interventies die de problemen door druggebruik beperken in het uitgaansleven. Meer specifiek werd in de literatuur op zoek gegaan naar peer-reviewed artikels omtrent deze initiatieven met elektronische media als actieve component in de interventie. Het beschrijven van effectieve interventies of componenten van programma’s kan ontwikkelaars verder helpen om effectieve preventie en harm
reduction te implementeren. In totaal werden er 14 artikels weerhouden in deze review. Na het analyseren van deze artikels kan er besloten worden dat geïsoleerde sociale marketing campagnes weinig effectief blijken te zijn. De effectiviteit verhoogt wanneer tevens media advocacy opgenomen wordt. Media advocacy in combinatie met andere programmacomponenten blijkt ook de effectiviteit te verhogen, voornamelijk wanneer ordehandhaving deel uitmaakt van de interventie. Training voor preventiewerkers omtrent omgaan met media kan een meerwaarde zijn. Hoewel dus duidelijk een effect zichtbaar is bij het betrekken van media bij interventies, is het nog steeds niet zo duidelijk hoe deze bijdragen tot de uiteindelijke effectiviteit van de interventie.
