Margins of Prevention

– On Older Adolescents’ Positive and Negative Beliefs about Illicit Drug Use

Patrik Karlsson

To Lotta and Arvid
Abstract

This study explores older adolescents’ positive and negative beliefs about illicit drug use from a preventive perspective. By positive beliefs is meant positive expectancies and benefit perceptions. By negative beliefs is meant negative expectancies and risk perceptions. The choice of studying beliefs originates from the assumption that there is much to gain for prevention in considering the target audience’s starting point. An appraisal of the extent to which positive and negative beliefs are held suggests the margins for change.

The data used for the study derive from a survey conducted among a sample of third-year students in upper secondary school in the greater Stockholm area (n=2104). Overall, findings demonstrate that high negative beliefs are held and that positive beliefs to some extent are held. While this being the general trend, marked differences emerge between individuals who have used illicit drugs and individuals who have not. By and large, experienced individuals rate the negative sides as lower and the positive sides as higher than the other group. Substantial differences are found among lifetime users of illicit drugs as well. Those who have used illicit drugs more frequently during the last 12 months differ in particular from those who have refrained during this period. The differences are dramatic in some cases. In addition, consistent differences are documented between the sexes. Males are found to hold lower negative beliefs and higher positive beliefs across most measures employed. Few systematic relationships are found between other variables and outcomes.

Plausible explanations for the findings are discussed theoretically and potential implications for drug prevention are highlighted. A saturation hypothesis is introduced in order to accentuate that the overall room for change in negative beliefs probably is limited. Conversely, the fact that positive beliefs are held to a certain degree suggests a belief domain with change potential.

Key-words: Illicit drugs, adolescents, prevention, margins for change, beliefs, perceptions, expectancies, positive, negative, risk, pleasure, Sweden.
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CHAPTER 1

Introduction

Western societies make great efforts to curb the use and misuse of tobacco, alcohol and illicit drugs. This is understandable, given the large body of adverse consequences that may follow psychoactive substance use. Adverse consequences include social, developmental, mental and physiological problems, as well as injuries and even death (Stockwell, Gruenewald, Toumborou & Loxlay, 2005). Some problems arise after long periods of heavy exposure, whereas others may follow single consumption episodes. Adverse consequences do not only pose a heavy weight upon users, but also upon society at large. Estimates from WHO indicate that psychoactive substance use accounts for a relatively large proportion of the global burden of disease, with the highest figures found for the developed world (see Rehm & Room, 2005). Consequently, this use accounts for major societal costs as well (see e.g. Fenoglio, Parel & Kopp, 2003; Single, Robson, Xie & Rehm, 1999).

It is well known that alcohol, tobacco and illicit drug use most often begins in adolescence (Bauman & Phongsavan, 1999), a life phase occurring between childhood and adulthood (e.g. Chisholm & Hurrelman, 1995). As the best way to deal with a problem is to prevent it from occurring, this period usually attracts particular attention. The most common preventive measure targeted towards adolescents is school-based drug education. This measure – which is part of the educational curriculum for students aged 12-18 in most Western countries (Cuijpers, 2002) – has also been extensively evaluated. Hundreds of studies have examined its effect on drug related outcomes. A consistent finding is that knowledge and attitudes are relatively easy to alter, but that drug behaviour poses a greater challenge (see e.g. White & Pits, 1998). Authoritative reviews show that there are promising programmes, but that most have produced meagre or virtually no behavioural effects. In fact, also the most promising programmes may only have reached relatively small effects so far (Cuijpers, 2003).

However, this does not appear to threaten the popularity of drug education. For one thing, the school offers the most ideal setting for drug preventive work. No other venue gives such easy access to the adolescent population. Furthermore, as pointed out by Blackman (2004), unconvincing results are seldom attributed to drug education as such. Instead, the
problem is ‘located elsewhere’ (p. 154), suggesting that drug education most likely is here to stay (cf. Paglia & Room, 1999).

At current, much attention is paid to this ‘elsewhere’ in the drug education literature. A common argument is that major advancements have been made but that challenges remain in ‘pursuing the course from research to practice’ (cf. Dusenbury & Hansen, 2004). US researchers in particular emphasize the importance of issues concerning implementation and dissemination of the programmes with strongest scientific support (see e.g. Botvin, 2004; Dusenbury & Hansen, 2004; Gingis, Roberts-Gray & Boerm, 2006; Greenberg, Weissberg, O’Brien, Zinz, Fredericks, Resnik & Elias, 2003; Payne, Gottfredson & Gottfredson, 2006; Weissberg, Kumpfer & Seligman, 2003; Pentz, 2004). A common observation is that there is a gap between the way the programmes are intended to be carried through and the way they are delivered in practice. This has spawned numerous new research needs. Researchers have e.g. called for studies exploring the obstacles to high implementation fidelity (Botvin, 2004).

There can be little doubt that these issues are very important. Yet, this emphasis should not conceal an equally important aspect: the need to match the measures to the target audience (Leeming, Hanley & Lyttle, 2002, Paglia & Room, 1999; Thorsen & Andersson, 2000). This means, for example, that the content of these measures should be adjusted to knowledge and opinions already held. As showed by Paglia and Room (1999), the prevention literature has, however, paid far too little attention to how drug use appear to young people themselves. Provided that preventive interventions are more likely to be successful if they are tailored to the target audience's starting point (see e.g. Hawks, Scott & McBride, 2000), this is unfortunate.

The importance of this aspect constitutes the point of departure for the current study. In what follows, I elaborate on two broad themes that I maintain are crucial to thoroughly consider. Continuing from the stage set by Bergmark (2004), the themes that are approached centres around risk and pleasure. Bergmark discussed these two in relation to alcohol prevention. Here I focus on the prevention of illicit drug use among adolescents1. The discussion should be seen against the background that risk is a key concept and pleasure is the great unmentioned in the drug prevention field. The prevention literature has been rather consistent in neglecting pleasure with regard to all psychoactive substances. However, in public discussions this is

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1 In Sweden, people are prohibited from using alcohol and tobacco until they are 18 years old. Here, however, illicit drugs refer to substances that are illegal to use for non-medical reasons also for adults. Examples include cannabis, cocaine and amphetamine. Notable is that in Sweden, the label narcotic drugs is often used instead of illicit drugs. However, the latter is more common in the international literature and I will therefore use it here too. In some cases, labels such as illegal drugs and illicit substances are used. They should be understood as interchangeable with the label illicit drugs.
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most evident concerning illicit drugs. While not approving of this activity\(^2\), I will try to show that pleasure likely is a central motive behind much illicit drug use. At least it is so when it comes to experimental or recreational use. The importance of including the perceived benefits is stressed in the decision making literature and in specific theories of health related behaviours (see Millstein & Halpern-Felscher, 2002). Support for this is found in empirical research into youths’ risky behaviours, including both quantitative (e.g. Fromme, Katz & Rivet, 1997) and qualitative (e.g. Gillen, Guy & Banim, 2004) studies.

Risk, on the other hand, is a very central concept in the drug prevention area. Most school-based drug education includes information about risks of illicit and other drug use, even if this is not always the primary emphasis. A fundamental assumption behind these attempts is that people use substances because they are unaware of the risks. To have potential to change, this information must thus add something not already known or believed among the receivers\(^3\). A message emphasizing the dangerousness of illicit drugs will at best have a minimal effect on this type of beliefs if the target audience already believe this is the case. A systematic treatment of this issue is provided by behavioural theorists Fishbein and Ajzen (e.g. Fishbein & Ajzen, 1975). They posit that the potential magnitude of change is directly related to the discrepancy between a belief held and a belief provided by an external source. Starting off from this very basic tenet, I explore whether there are substantial margins for change or whether there are reason to think otherwise. In so doing, I draw upon theory and research into our present ‘risk society’ – a society occupied with risks to an extent never witnessed before. Fishbein and Ajzen’s tenet is a reference point for the pleasure theme as well. To the extent pleasure is a central motive for illicit drug use, a central target emerges for prevention.

An empirical study is also included. Drawing upon a sample of more than 2000 third-year students in upper secondary school in the greater Stockholm area, the study examines beliefs about positive and negative sides of illicit drug use. The more general discussion aims at highlighting important tendencies, but is incapable of giving clear-cut answers. Therefore, an empirical examination is warranted.

A note on adolescents’ relation to risk is needed already in this stage. A prerequisite for conducting research into risk perceptions among adolescents

\(^2\) Given the sensitive nature of the topic under study, this is an important issue to stress. As noted by Denscombe (2001), sometimes efforts to understand a phenomenon are interpreted as efforts to justify the actions and decisions involved. My intention is not to try to justify illicit drug use; it is just to elaborate on issues which I argue are central to an understanding of this behaviour and which consequently are important to take into account from a drug preventive point of view.

\(^3\) Of course, it might be valuable nevertheless, i.e. it might reinforce beliefs already held.
Chapter 1

is that they actually care about risks. As far back as to the time of Aristotle, adolescents have been seen as holding unrealistic confidence in their own safety (Beyth-Marom, Austin, Fischoff, Palmgren & Jacobs-Quadrel, 1993). These accounts, often taking the form of conventional wisdom, have frequently been advanced to explain adolescents’ engagement in risky behaviours. Contrary to the popularity of this belief, the empirical literature does not indicate that adolescents see themselves as invulnerable to harm (Millstein & Halpern-Felsher, 2002; Nightingale & Fischoff, 2002; Rodham, Brewer, Mistral & Stallard, 2005). At least, they do not do so more than what adults do (Cohn, Macfarlane, Yanez & Imai, 1995; Jacobs Quadrel, Fishoff & Davis, 1993). These findings strongly suggest that the notion of ‘the invulnerable adolescent’ is a misnomer making further analyses meaningful.

Aim of the study

The aim of this study is twofold. First, to describe and analyse older adolescents’ beliefs about risks and negative sides of illicit drug use. Second, to describe and analyse older adolescents’ beliefs about benefits and positive sides of illicit drug use. The study attempts to answer the following main questions:

- How are the risks of illicit drug use perceived?
- How great is the perceived likelihood that negative consequences will occur from illicit drug use?
- Are there any perceived benefits of illicit drug use?
- How great is the perceived likelihood that positive consequences will occur from illicit drug use?

The study adopts a preventive perspective. This means that great weight is attached to potential consequences for prevention. Particular attention is paid to the margins for change in the type of beliefs being studied. ‘Low’ beliefs about benefits and positive sides and ‘high’ beliefs about risks and negative sides would suggest narrow margins for change. ‘High’ beliefs about benefits and positive sides and ‘low’ beliefs about risks and negative sides would suggest the opposite. The preventive perspective also permeates other sections. The two broad themes outlined are clearly important in their own right, but potential repercussions for prevention are the focal interest. A main orientation is thus to track down domains in which the change potential for prevention may be considerable and domains in which it may be less so.
Disposition

The disposition reads as follows. The remainder of this chapter presents a brief overview of the Swedish illicit drug policy. Though subsequent chapters only focus on a few measures, the larger context should be taken into account as well. I highlight briefly important parts of the historical baggage of the policy and some current developing lines. As will be evident, this historical baggage has proved crucial in shaping the policy. The Swedish vision of a society free of illicit drugs is particularly emphasized. By the adoption of this goal, a principle has been installed that also permeate preventive work. This holds that measures should not merely keep status quo in use habits but must achieve changes. Besides this, specific attention is given to the current state of affairs for school-based drug education. This measure has constituted a central element in Swedish drug preventive work for many years, but has received a revitalised interest from policy makers recently. It is currently stressed that the Swedish drug education has lagged behind international developments. Consequently, efforts are being made to reform the Swedish school-based drug education so as to be in accordance with these.

However, as noted in the introduction, also the most promising programmes have only yielded small effects. Though no attempt is made to explain this, it is argued that some aspects might have been overemphasized at the expense of other important issues. In developing this argument, chapter 2 dwells upon characteristics and assumptions of drug prevention. The core content of different school-based drug education approaches is given specific weight. The main focus is on those most promising at present. These are referred to as psychosocial approaches. This label comprises both the so-called social influence approach and the comprehensive or expanded social influence approach. While psychosocial approaches have made an important contribution to the field, there are issues which they might fail to conceptualize fully satisfactory. One such is the propensity to overestimate the influence of peers on adolescent drug use. Another is the tendency to underestimate the role played by recreational motives. If considered, adolescents’ motives for using substances are predominately conceptualized in terms of attempts to compensate for shortcomings in life, such as low self-esteem and social anxiety.

The discussion in chapter 2 is an important background for chapter 3, where the themes of risk and pleasure are sketched. Having outlined these themes, chapters 4 to 6 are devoted to the empirical study. Chapter 4 concerns methodological issues such as construction of the questionnaire, choice of study sample and data analysis. To facilitate the analysis, this chapter begins by outlining central findings documented in prior research into this specific topic. While the themes outlined in chapter 3 are crucial to consider, they have little to say about empirical distinctions as regards the
topics being studied here. They highlight important aspects to address for
drug prevention. But once the attention has been turned that way, much is
 gained by informing the design of the empirical analyses with more special-
ized research. The main thrust of the empirical risk perception research is to
provide an understanding of people's beliefs about risk (Slovic, 1987). Thus,
this research seems an appropriate basis to build the analyses on. To put it
overly simplified, the role played by risk theorists here concerns the question
of why it is particularly crucial to focus on risk. The empirical risk perception
literature is, on the other hand, referred to regarding how this should be
made empirically. The same applies to the pleasure theme.

Chapter 5 presents the empirical part dealing with beliefs about negative
sides of use and chapter 6 the part dealing with beliefs about positive sides.
Due to the fact that the negative sides are far more elaborated in prior re-
search, chapter 5 is more extensive than chapter 6. Apart from this, the
arrangement is similar in each chapter. The analyses contain comparisons
regarding mean scores and percentages between variables of specific inter-
est and continue with regression analyses. Factor analyses are used in some
cases and so are correlation analyses.

In chapter 7, the main findings from the empirical study are summed up
and linked to prior research. Implications for drug prevention are discussed,
with a main focus on the Swedish situation. In particular, implications are
discussed in relation to the requirement of change. To the extent these
findings have something to tell about young people's beliefs in general, they
might be of interest for other countries as well. The chapter ends with sug-
gestions for further research.

A brief outline of the Swedish illicit drug policy

The advent of a clear-cut Swedish illicit drug policy dates back to some-
where around the 1960s (Lenke & Olsson, 1999). Though the use and mis-
use of illicit drugs had existed a long time before, it was not until this period
it became a societal matter (Johnson, 2003; Olsson, 1994; Stensmo, 1979).
As Johnson (2003) put it, from largely having been defined as a medical and
private problem, at this time a cognitive reorientation took place where illicit
drug use began to be defined as a social problem. It would be almost impos-
sible to specify the exact time when this process started, but as shown by
Lindgren (1993), an eventful period occurred between 1954 and 1968. In
1954, young people's use of marijuana and central nervous system stimu-
lants was for the first time defined as a problem in the parliament. In 1968,
the government and parliament decided about an extensive 'combating
system’ that basically have been at hand ever since (Boekhout van Solinge, 1997; Lindgren, 1993). An act was passed in the parliament embracing an extensive programme of measures and the government adopted a 10-point action plan against illicit drugs. The establishment of this combating system took place in the wake of two main events, both of which thus have been influential in forming the policy.

Reacting on increasing levels of illicit drug use, in 1965 the so-called Committee of Treatment for Drug Abuse (Narkomanvårdskommittén) was appointed. This was the first governmental investigation in the illicit drug field. Its two first reports (out of totally four) were presented in 1967. One focused on treatment of drug abusers (SOU 1967:25) and one on control measures (SOU 1967:41). By means of the commission’s reports, which both included estimates of the number of illicit drug abusers in the country and suggestions for an action plan, the government was provided with a definition of the problem and the tools to deal with it (Boekhout van Solinge, 1997). Mentionable is that the committee was dominated by medical representatives, a circumstance that arguably have been an important factor regarding the illicit drug policy at large (Tops, 2003). Using a medical terminology, the commission compared the problem to an epidemic in one of the reports (see Tops, 2003). By emphasizing the epidemic character of illicit drug use, a view was put forth which still constitute a central element in the policy. According to Tham (1995), this view basically portrays illicit drugs as a contagion that can afflict anyone at anytime.

To curb the abuse of illicit drugs, the committee stressed the importance of developing a comprehensive programme (Johnson, 2003). Such a programme should rest on three pillars: control measures, treatment and prevention. These three pillars still constitute the foundation of the illicit drug policy. As shown by Lindgren (1993), the fact that the parliament subsequently endorsed such a comprehensive programme is to be understood as a political synthesis of two opposite strategies: the control and sanction strategy and the treatment and reform strategy. Proponents of the control and sanction strategy mainly stressed the availability of illicit drugs, their dependence producing properties and the need of repressive measures. Proponents of the other strategy emphasized demand reducing measures such as treatment and prevention (‘treatment instead of punishment’).

Even though the treatment and reform strategy was successful in putting treatment- and prevention issues on the political agenda, the control and sanction strategy was the obvious winner regarding the penal law area. From now on, the juridical system’s influence was strengthened. This is illustrated amongst other things in the raising of the maximum penalties for illicit drug crimes from one to four years imprisonment. Further, a series of subsequent events led to a policy largely favouring the control and sanction strategy. For example, additional resolutions related to control and sanction
measures were passed in the parliament in 1969 and the police intensified their work markedly (Lindgren, 1993).

Parallel with the Committee of Treatment for Drug Abuses work, an experiment of legal prescription of illicit drugs to addicts was carried out in Stockholm. The experiment was carried through between 1965 and 1967 and was subsequently defined as a great disaster. Among its critics, the experiment has been held responsible for causing a veritable illicit drug use epidemic. The argument has particularly concerned an observed increase in incidence of intravenous drug use among arrestees in Stockholm during the time of the project. Conversely, a decline in incidence the two years following the termination of the project has been advanced as proof of the same (Lenke & Olsson, 1998). 4

According to Lenke and Olsson (1998), the experiment was never intended to be a scientific project. Rather, it grew out of the practical work of some medical doctors, initially backed up by the non-governmental organization RFHL. 5 The ideology was explicitly said to build on liberal ideals and more than 4,000,000 dosages were prescribed to about 120 persons almost without control (Lenke & Olsson, 1998). The patients could take home drugs for many day’s use and if they ran out of drugs before the prescription period was over, they could just come back to get more. There was no surveillance in how the participants administrated the substances or whether the drugs leaked out to the black market (Lenke & Olsson, 1998).

Due to its ‘liberal’ practices, the experiment rapidly became extremely controversial. By the end of 1965 only one of the about ten physicians involved in the project remained, and soon after the RFHL abandoned the project (Boekhout van Solinge, 1997). The deathblow came when a young girl not participating in the experiment died from an overdose of amphetamine and morphine prescribed by the only remaining physician. After this, the disapproval of the experiment became so strong the medical board soon closed down the project (Lenke & Olsson, 1998).

According to some commentators (Johnson, 2003; Lenke & Olsson, 1999), the fact that drug liberal voices have been absent in Sweden since the 1960s is a circumstance largely attributable to the negative experience of the experiment. Previously, proponents of a legalisation strategy participated to some extent in the struggle of the direction of the illicit drug policy (cf. Lindgren, 1993). But after the experiment the legalization strategy disappeared both from media and policy debates (Lenke & Olsson, 1999).

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4 Later calculations show that the effect of the experiment on the epidemic is not as straightforward as it was defined at that time. Actually, it appears as if the epidemic started before the experiment was initiated (see Lenke & Olsson, 1998).

5 The national organization for help and assistance to drug abusers.
Though the direction was established in the late 1960s, the policy has arguably become more restrictive over time. It has been pointed out that the years around 1980 constitute a watershed in this development (Tham, 2003). While it probably would be incorrect, as is sometimes done, to see the direction of the policy of this time as a clear break with the 'liberal' 1970s, it is quite evident that from this period onwards the policy has become increasingly more restrictive. To illustrate this intensification, a parallel might be drawn to the situation in the US during the early 1980s, when a war on drugs was declared by President Reagan (Boekhout van Solinge, 1997). At this time, illegal drugs were perceived as a growing problem in the US. The answer consisted of tougher penalties and more law enforcements – a development fairly equal to the Swedish case (Boekhout van Solinge, 1997). For example, in 1982 the parliament passed an act making it possible to coercively treat drug abusers; in 1988 consumption of illicit drugs was criminalised; and in 1993 the penalty scale for the same increased to a maximum of six months imprisonment. After 1980, more attention was paid to the ‘street level’, clearly expressed by a parole adopted by the police: ‘it shall be tough to be an illicit drug abuser’ (Tham, 2003). However, the most wide-ranging event is nevertheless that from now on, the official goal becomes a society free of illicit drugs.

**A society free of illicit drugs**

The goal of a society free of illicit drugs is a distinctive feature of the Swedish policy. In a central document (National Institute of Public Health, 1995), the rationale underlying this vision is described in the following way:

A drug-free society is a high objective expressing society’s attitude to narcotic drugs: we do not accept the integration of narcotic drugs in society, and our aim is a society in which drug abuse remains a socially unaccepted form of behaviour, a society in which drug abuse remains a marginal phenomenon (…) A drug-free society is a vision expressing optimism and a positive view of humanity: the onslaught of drugs can be restrained, and drug abusers can be rehabilitated (p. 11 original translation).

This vision is further broken down in three sub-goals: 1) reducing the recruitment of new abusers, 2) inducing more abusers to quit using and 3) reducing the supply of illegal drugs (National Institute of Public Health, 2003, p. 74). The first sub-goal is to be achieved by prevention, the second

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6 As pointed out by Lenke & Olsson (1999), what happened around 1980 is best described as a strengthening of measures which already were an important part of the overall policy, and not as a qualitative break with the prior situation as some would claim.
by treatment and the third by control measures, i.e. the three pillars which constitute the policy at large.

A central element of the Swedish illicit drug policy is, however, that no qualitative distinction is made between supply- and demand reducing measures. Supply- and demand factors are seen as interwoven. A fundamental idea is therefore that there is a close interaction between treatment, prevention and control measures. For example, effective treatment is regarded both as important in reducing addicts’ demand for illegal drugs and for reducing the overall availability (see e.g. SOU 2000:126). If addicts quit, it is argued, the market shrinks, since they not only consume illegal drugs but also often sell them. While other countries focus their supply measures mainly on large-scale drug traffickers, the Swedish position is that also small scale users and dealers should be targeted7 in an attempt to create a society totally free of illicit drugs (Chatwin, 2003). Similarly, control measures are both defined as important in curbing the supply of illegal drugs and for having a restraining effect on people in general (SOU 2000:126).

The relation between the volume of the total set of policy measures and the actual size of the problem is a clear characteristic of the Swedish illicit drug policy. According to Lenke and Olsson (1999) the Swedish illicit drug policy can best be described as massive. This characteristic refers both to the actual extent of the problem and to what other countries invests in policy measures8. The National Institute of Public Health (1995) put forth a similar view in stating that the policy is distinguished by its ‘breadth and depth’ (p. 11). With breadth is meant that municipalities, country councils and virtually all national authorities are actively involved in drug control measures and further that prevention measures have high priority within e.g. the police, the customs, social services and schools. The depth of the policy is expressed in the view of illicit drugs which permeate society. Cutting across all boundaries of party politics and opinion, there is an overwhelming consensus that non-medical use is unacceptable (National Institute of Public Health, 1995).

The relation between the ‘size’ of the policy measures and the relatively low proportion of users has occasionally been referred to as proof that the Swedish policy regarding illicit drugs is irrational. Yet, a closer look at the structure of the policy reveals that this is not necessary the case. If a society

7 This is clearly shown by the fact that consumption of illicit drugs is criminalised, implying that also users can be targeted by control measures. It can also be noted that since 1993, when imprisonment was added to the penalty scale, the police have authority to take blood- and urine samples from individuals suspected for good reasons for use of illicit drugs (Träskman, 2003).

8 It should be noted, however, that there is nothing unique about the measures as such. Prevention, law enforcement and treatment are standard measures in most countries with a comprehensive policy (Lenke & Olsson, 1999).
free of illicit substances is defined as an unrealistic objective, the policy is irrational. But if this goal is seen as realistic, the massiveness of policy is clearly rational. In a society with this aim, but where (a small proportion of) people continue to use illicit drugs, there is in principle no upper threshold where the massiveness goes from being rational to irrational.

The Swedish case thus amply illustrates that the comprehensiveness of a country’s illicit drug policy need not necessarily reflect the magnitude of its problem with illegal drugs. Though the existence of drugs – defined as illegal – is a necessary condition, it is evident that also other factors play an important role. As discussed earlier, the appointment of the Committee of Treatment for Drug Abuse and the legal prescription experiment have been pointed out as important factors in forming the policy in the late 1960s. Yet, these two alone can hardly account for the gradual hardening ever since.

According to several researchers, to understand the strengthening of the policy, one must take into account the central role non-governmental organizations (NGOs) have played in the field (Boekhout van Solinge, 1997; Lenke & Olsson, 1999; see also Tham, 1995).

In addition to RFHL, there are three main NGOs in the field. These are the National Association for an Illicit Drug-Free Society (RNS), Hassela Solidarity and the National Association of Parents against Illicit Drugs (FMN). Contrary to the ‘liberal’ RFHL, these three are strongly rooted in radical temperance ideals (Lenke & Olsson, 1999). Consistent with this heritage, they all strive for a restrictive approach towards illicit drugs. In acting as pressure groups, their claims have had an important impact on the policy. A clear example is the fact that the government and parliament have adopted RNS’s goal of society free of illicit drugs (cf. Tham, 1995). To get support for their political claims, these organizations put much emphasis on affecting the public opinion. They play an active role in media debates and distribute information about illicit drugs and related issues. A recent example of these attempts is the nationwide distribution of The book about drugs (run by FMN) to all parents with children attending sixth grade (see Bogren, 2004). FMN and RNS also have their own periodicals, which are published on a regular basis. FMN’s periodical Anhörig (‘Relative’) is published five times annually, and RNS’s Narkotikafrågan (‘The illicit drug question’) six times annually.

Evidently, the illicit drug issue has been established as such a large problem in Sweden that it clearly supersedes party political interests (Chatwin, 2003). In analysing the ‘framing’ of this opinion field at large Bergmark and Oscarsson (1988) identified four doxic themes which constitute a never questioned foundation for discussions about illicit drugs. Adopted from French sociologist Bourdieu, the concept of doxa refers to ‘the universe of the undisputed’. It means a silent agreement about values, facts and circumstances taken for granted in a given opinion field. The four doxic themes read as follows (pp. 195-199):
Chapter 1

- The high problem profile of illicit drugs
- The dangerousness of illicit drugs
- The abuser of illicit drugs as a victim
- The treatment principle

The first point is a prerequisite for the opinion field at large. There is no rivalry between different positions about the size of the problem with illicit drugs. Instead, the authors argue that ‘the high profile is generated by a sort of positive feedback loops which escalate in one direction towards further problematization’ (p. 195). As regards the second doxic theme, there is a close link between the label illicit drugs and notions of dangerousness. The authors argue that to label a given substance illicit in Sweden is almost equivalent to say that it is very dangerous. The prevailing view is that use of substances subsumed under this definition most likely will lead to physical dependence (Blomqvist, 2004). Thus, the Swedish policy is characterised by not making qualitative distinctions between soft and hard illicit drugs.

The two first themes are of prime interest for the current study. However, as all illicit drug use is defined as abuse in Sweden, a note should be made about the third and forth theme. Regarding the third theme, Bergmark and Oscarsson (1988) posit that the opinion field allows different views of what kind of victim the abuser is – e.g. of the substances’ chemical properties or of his or her psychological constitution – but it does not allow a view of illicit drug abuse as an intentional activity. Likewise, they contend that the field allow different views of what kind of treatment that should be offered, but it is an undisputed notion that treatment as such should be offered. The doxic character of the treatment principle can be seen as a corollary of the victim theme: ‘Deviance which is considered to be independent of the volition of the individual can hardly...be matched with anything else but treatment’ (Bergmark & Oscarsson, 1988, p. 198).

The current situation: further intensification of the policy

In the preceding pages I highlighted some important characteristics of the Swedish illicit drug policy and some of its main determinants, as frequently mentioned by researchers. In this section I outline the more immediate context of the policy. This is characterised by further intensification of the route followed over the years. Here I also outline briefly the state of affairs regarding school-based drug education.
In 1998 the Illicit Drugs Commission (Narkotikakommissionen) was appointed by the government to evaluate the Swedish illicit drug policy since the middle of the 1980s. The commission's final report – entitled the Crossroad (Vägvalet) (SOU 2000:126) – was delivered to the Minister of health and social affairs in 2001. The Commission's main conclusion was that the policy faced a crossroad. One road calls for, it was pointed out, much more resources in the form of commitment, direction, competence and funding. The other implies lower ambitions and a considerable acceptance of drug abuse. In facing this crossroad, the Commission found that Sweden's restrictive policy had to be sustained and reinforced. Nevertheless, the commission pointed out several deficiencies in the policy, most of them related to demand reducing measures. No real shortcomings were found in the legislation or the working methods used by the authorities in the control sector. However, major drawbacks were found in the prevention and treatment area. Much of the preventive work was characterised as far too provisional. Signs of more permissive attitudes towards illicit drugs among young people were also held as proof of drawbacks in the preventive work. To intensify the current efforts, the Illicit Drugs Commission recommended, among other things, a stronger leadership of the policy, with the government playing a more active role.

The validity of the cross-road metaphor has however been doubted. In a critical analysis, Bergmark (2001) maintains that the report can be seen as a repetition of arguments and measures proposed by the commission's predecessors and that a cross-road not can be identified whatsoever. In a similar vein, Blomqvist (2004) contends that despite its title, the core message of the report is that all three parts of the traditional strategy need to be strengthened in a continued strive towards the society free of illegal drugs.

Largely based on the cross-roads report, the government and parliament subsequently endorsed a national action plan against illicit drugs (Prop. 2001/02: 91). By this endorsement, reinforcements were carried through in all parts of the policy. Among other things, a national illicit drug policy coordinator was appointed. The action plan lasted between 2002 and 2005, but a new action plan for the years 2006 to 2010 has been passed (Prop. 2005/06: 30). In this new action plan, the government concludes that some improvements have been made but that significant problems remain to be solved. Importantly, it is explicitly stated that the latest action plan is an update and continuation of the prior action plan. The policy coordinator's work has also been prolonged. Reflecting the name of the coordinators office, the current situation can clearly be described as a ‘mobilisation against illicit drugs’.
Chapter 1

The state of the art for school-based drug education in Sweden: poor quality and efforts to improve it.

No national inventory of drug preventive programmes used in schools has been made in Sweden (National Institute of Public Health, 2003). It is therefore not possible to know how many different programmes there are and how they are dispersed. However, in 1999 the National Agency for Education made a thorough evaluation of the quality of the regular drug education provided in Swedish schools (Skolverket, 2000).

The conclusion drawn was critical in many respects. Major deficiencies were found regarding the general goals for drug education (too wide and imprecise); regarding in-service training for the personnel; regarding follow-ups; regarding the influence of students in forming the education; and regarding cooperation with the local community and parents (p. 124). Most schools included were found to conduct a ‘fact-oriented and risk-fixated’ drug education where ‘far too little attention is given to the students’ personal views about tobacco, alcohol and other drugs’ (p. 127)9.

A large share of students interviewed as a part of the evaluation described teachers as persons not familiar with youths’ reality, as living in another world. On the other hand, teachers involved in drug education were found, by the evaluators, to have adequate knowledge about alcohol, tobacco and traditional illicit drugs, but not about new drugs. Their knowledge about drug education’s preconditions, methods and results were further deemed as insufficient. It was also pointed out how unusual it was to meet school staff with a well-thought out and reflective approach towards drug education. Instead, most drug education was delivered by routine, by use of traditional text books. Thus, the education was found to predominately contain a detailed account about e.g. illicit drugs and their harmful effects, leaving students to draw their own conclusions. The lion’s share of the staff appeared to lack a ‘programme theory’ regarding how the education is supposed to work and through which mechanisms.

The fact that the National Agency for Education defines the Swedish school-based drug education as ‘risk-fixated’ is of specific interest here. Not only is this a characteristic that should be taken into account regarding the risk theme developed in chapter 3. It is also a characteristic that contrasts with recommendations advanced in the international literature. In the international literature, the development of school-based drug education over time is most often described as having followed three general phases (see

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9 As one interviewed student put it: ‘The only thing one learns is that it’s dangerous…one should avoid illicit drugs, but not why…’ (p. 131).
e.g., Gorman, 1996), with a general agreement that the education in the latest phase is most effective. In the first phase—often described as occurring between early 1960s to early 1970s—the emphasis was mainly to provide knowledge about drugs and the risks of drug use. During the second phase (early 1970s to early 1980s), so-called affective approaches dominated. A specific feature of affective approaches is that they are not drug-specific but rather concentrate on broader issues of personal development. Examples of aspects included in this type of education are decision making, values clarification and stress management. In the third phase (early 1980s onwards) the so-called social influence model gained dominance. By way of this model, efforts are made in teaching skills in how to resist influences, mainly from peers, sometimes in combination with broader personal and social skills (the latter sometimes called an expanded or comprehensive social influence approach).

As compared to this picture, the National Agency for Education shows that the development of Swedish drug education has taken a different turn. Whereas for example affective approaches were present during the 1980s, since the middle of the 1990s the Swedish school-based drug education has largely returned to the more traditional approach of the late 1970s, i.e. a teacher-centred facts approach. This approach differs markedly from the 1980s approach which was characterised by smaller groups, conversations, role playing and value exercises.

In the wake of this, central authorities have put considerable efforts to improve drug education. Both the National Agency for School Improvement and the National Institute of Public Health has subsequently published several reports about health promotion in schools, including drug education (see National Institute of Public Health, 2003). The National Agency for Education has also developed material (Skolverket, 2001) distributed to the school principals in order to support the work with e.g. drug education.

The conclusions drawn in the National Agency for Education’s evaluation also play a central role in the Crossroads report as well as in the two subsequent action plans. In these documents it is stressed that drug education to a large extent should focus on ‘social influences and competence enhancing training’¹⁰ (Prop. 2001/02:91, p. 23; Prop. 2005/06:30, p. 91; SOU 2000:126, p. 117) but that youths also should be provided knowledge about drugs (e.g. Prop. 2005/06:30, p. 55). Thus, it is proposed that school-based drug education should have a broad scope, aiming at behavioural changes, drug-free values as well as knowledge provision (see e.g. SOU 2000:126, p. 125).

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¹⁰ Competence enhancing training basically involves the same components as what in chapter 2 is called ‘the expanded social influence approach’.
Illicit drug use and related attitudes among the Swedish population

Before closing this chapter, some remarks should be made about illicit drug use and related attitudes among the Swedish population. Longitudinal drug surveys have been conducted among students in grade 9 (aged 15-16) and among military conscripts (aged 18) since 1971 in Sweden. Among the students, the lifetime prevalence of illicit drugs was highest in the early 1970s. In 1971 14 percent of the boys and 12 percent of the girls reported that they had used an illicit drug (Hvitfeldt, Rask, Andersson & Hibell, 2004, p. 55). During the 1970s and 1980s the figures decreased dramatically, with a lifetime prevalence of around 3 percent for both boys and girls in the late 1980s. However, during the 1990s and up until 2001 the lifetime prevalence among boys doubled and among girls it tripled (Hvitfeldt, Rask, Andersson & Hibell, 2004). Since then, the proportion with illicit drug experience has decreased slightly.

The lifetime prevalence also decreased dramatically among military conscripts during the 1980s. From a peak of 19 percent in 1980, it decreased to 6 percent in the late 1980s (Guttormsson, 2005, p. 41). Reflecting the findings in the school surveys, in the 1990s the figures rose and continued to do so until 2002. Whereas 6 percent reported having ever used an illicit drug in 1992, in 2002 the figures were threefold higher (Guttormsson, 2005, p. 41). Afterwards, the lifetime prevalence has decreased somewhat.

As mentioned above, the level of illicit drug use is relatively low in Sweden. It is interesting to note, however, that the tendencies identified in the Swedish longitudinal drug surveys regarding the 1980s and the 1990s reflect trends in the developed world at large (cf. Bauman & Phongsavan, 1999). The prevalence differs markedly between different countries, but trends over time have followed a similar course. The prevalence increased steadily in most developed countries during the 1990s, with e.g. trends shown in US data being similar to the trends in Sweden. Referring to the extensive longitudinal US study Monitoring the Future, Bauman and Phongsavan (1999) have thus shown that both marijuana use and other illicit drug use decreased gradually in US during the 1980s with an upward trend occurring in the early 1990s.

Though the drug habits of military conscripts and students in grade 9 have been most extensively studied, surveys have also been conducted e.g. among the adult population and among people aged 16-24. Between 1988 and 2000 nationally representative samples of people aged 15-75 years were interviewed about their drug use (see CAN, 2004, pp. 86-87). These surveys suggest that the proportion with experience of using illicit drugs rose from 8 percent in 1988 to 12 percent in 2000. An upward trend was also identified among the population aged 16-24 between the years 1994 and 2003. Whereas the lifetime prevalence was 4 percent in 1994, in 2003 it was
17 percent. In order to make a comparison with the figures found for the current study sample, chapter 4 further outlines the prevalence of illicit drug use among the younger population.

Above it was mentioned that e.g. the high problem profile of illicit drugs and their dangerousness seldom are questioned in public discussions. When asked about their personal opinions, it is evident that the general population hardly contest this view. This is for example shown by Hübner (2001) in a study based on a national representative sample of people aged 18-69. Hübner found that illicit drug abuse was ranked, by both men and women, as one of the most serious problems, above e.g. unemployment, environmental pollution, drunkenness and alcoholism, poverty and problems due to smoking (p. 122). Likewise, Hübner found that 74 percent of the men and 82 percent of the women stated that hash/marijuana cannot be used without one getting addicted (p. 136.). A similar finding was also at hand for other illegal drugs; 75 percent of the men and 82 percent of the women stated that other illegal drugs can not be used without one getting addicted (p. 136). Also interesting to note, the prohibition of illicit drugs is supported by an overwhelming majority with about two out of three stating that the punishments for drug crimes are too soft (p. 190).
CHAPTER 2

Assumptions and characteristics of drug prevention

This chapter discusses assumptions and characteristics of drug prevention. Acknowledging that much could be said about this – e.g. that prevention is a product of modernity and that it is coloured by social norms – only narrow issues are discussed here. The chapter begins with an outline of ways to define and classify drug prevention. Thereafter the logic of prevention is sketched. This holds that factors which promote drug use are targeted. In discussing this issue, I touch upon a characteristic that largely permeate the prevention field. This is called a deficit model of adolescent substance use. The way this model underlie school-based drug education approaches currently in use is discussed in the next part of the chapter. There I also review research evaluating school-based drug education and point out some problems with the most effective approaches available, i.e. psychosocial approaches.

Definitions and classifications of drug prevention

It has proved hard to give the term prevention a clear-cut definition (see e.g. Sahlin, 1999), but it usually means that something is done to avoid that something undesirable will happen. However, there is today debate about whether the promotion of well-being should be considered prevention too (see e.g. Durlak & Wells, 1997; Mrazek & Haggerty, 1994; Weissberg & Greenberg, 1998). Proponents of the wider definition maintain that many young people who are regarded as problem-free may still lack the resources to become healthy citizens (Weissberg & Greenberg, 1998). While not taking stand on this issue, this study focuses on efforts aiming to avoid future events. Likewise, while some approaches attempt to improve young people's general personal and social competence, it is only the impact of this competence on drug use that is of concern.

11 These issues are discussed elsewhere (see Freeman, 1999; Sahlin, 1999).
Drug preventive efforts can be classified in a number of ways. One common way is to classify them into primary prevention, secondary prevention and tertiary prevention. This terminology is common in the broader field of public health from which it also has been adopted. Here primary prevention refers to attempts to decrease the number of new cases or incidence of a disorder; secondary attempts to decrease the prevalence of established cases and tertiary to reduce the disability associated with a given disorder (cf. Weissberg, Kumpfer & Seligman, 2003). Accordingly, primary prevention in the drug field refers to efforts aimed at preventing the use of drugs altogether; secondary to decrease the number of identified cases of drug users; and tertiary prevention can be seen as an equivalent to treatment of drug abusers (Cuipers, 2003).

However, some years ago the US organ Institute of Medicine (IOM) published a report where a new classification scheme was recommended (Mrazek & Haggerty, 1994). The report dealt with prevention in the mental health field but the proposed terminology has also made its way into the drug prevention field. According to the IOM-report, the term prevention should be reserved for interventions directed prior to clinically diagnosable disorders. Once an individual meets criteria for disorder, interventions targeting that disorder should be defined as treatment (Munoz, Mrazek & Haggerty, 1996). This is a main difference from the other classification scheme where treatment is called tertiary prevention. Uneasy with the alleged tendency that all activities carried through are called prevention, the report recommended that prevention should be seen as only one part of an overall ‘mental health intervention spectrum’.

As to prevention, the report suggested that it should be divided into three subcategories: universal, selective and indicated preventive interventions. By universal interventions is meant interventions that target the general population or a whole population group not identified on the basis of increased risk. Selective interventions are interventions which target individuals or groups of the population whose risk of developing mental disorders is higher than average. By indicated interventions are meant interventions targeting high-risk individuals with signs or symptoms foreshadowing disorder (Mrazek & Haggerty, 1994).

The meaning of respective subcategories is similar in the drug prevention field. An example of universal interventions is school-based drug education targeting a whole student population irrespective of students’ risk status. An example of selected interventions is preventive programmes which target children to alcoholic parents. And an example of indicated

\[ \text{Aside from prevention, this spectrum includes treatment (case identification and standard treatment for known disorders) and maintenance (compliance with long-term treatment and after care) (see Mrazek & Haggerty, 1994, pp 22-24).} \]
assumptions and characteristics of drug prevention

interventions is interventions targeting individuals whom experiment with illicit drugs (Cuijpers, 2003).

In addition to these classification schemes, drug preventive efforts are often classified according to the setting in which they are carried through. Common examples of these include the school, the media and the family. The school is the most common setting for drug preventive work. However, the media is regularly used as well and there exist several drug preventive programmes for families (Cuijpers, 2003). Another setting is the broader community. In this case, the primary objective is to change the behaviour of populations rather than individuals’ behaviours (Gruenevald, 2004). In comprehensive community-based approaches attempts are often made to incorporate the participation of the general community and its institutions in order to address environmental and social factors assumed to contribute to adolescent substance use (see e.g. Aguirre-Molina & Gorman, 1996).

Two additional dimensions on which preventive efforts can be classified concern their goal and the strategy chosen (Paglia & Room, 1999). Examples of goals are to prevent the onset of drug use or to prevent harm from use whereas examples of strategies are education or legal regulations.

logic of prevention: targeting precursors

Irrespective of such distinctions, all drug preventive efforts share one characteristic: they address assumed determinants of the outcome to be prevented. If family conflicts are seen as contributing to adolescent drug use, efforts might be made to improve the relations between parents and children. A requirement for potentially successful efforts is that they build on evidence regarding why young people use substances. If not doing so, they will hardly have an impact.

The research with potential to inform the development of successful drug prevention programmes is voluminous. The etiological research, for example, is so extensive that it would be a ‘Herculean task’ to grasp all studies covering only a few etiological domains (Scheier, 2001, p. 126). Research has identified a large number of factors that contribute to substance use. Thus, the etiology of adolescent substance use is multi-factorial and very complex (cf. Bauman & Phongsavan, 1999; Botvin, Schinke & Orlandi, 1995; Bukoski, 1991; Gernstein & Green, 1993; Hawkins, Catalano & Miller, 1992; Jones & Battjes, 1985; Petraitis, Flay & Miller, 1995).

In line with this, recent recommendations posit that no single measure can successfully prevent adolescent substance use (see e.g. Bukoski, 1991). There is consensus among most prevention researchers that a comprehensive perspective is warranted. Designing effective drug prevention measures requires that many empirically documented precursors of adolescent
substance use are considered. From this perspective, it is often contended
that the so-called risk factor approach is an appropriate framework for drug
prevention research and practice.

The risk factor concept has a similar meaning in drug research as it has
in epidemiological research into infectious and other diseases (Newcomb,
Maddahian & Bentler, 1986). If an individual ‘has’ a particular risk factor, he
or she is more likely to engage in substance use than if the individual does
not have the factor, all other things equal (Gernstein & Green, 1993). A
distinctive feature of this approach is that it stresses a multiple pathway
model of adolescent substance use, where different factors may lead to the
same outcome (Newcomb, Maddahian & Bentler, 1986). There is no single
reason why youths engage in drug use. Whereas some approaches focus on
social influences and other on the interaction within the family and the
school, the risk factor approach considers any factor that promotes drug use
(Gernstein & Green, 1993). As a consequence, the risk factor approach
expands over disciplinary borders. As described by Bukoski (1991), the main
thrust of the risk factor approach is to identify psychological, social, biologi-
cal, behavioural and environmental factors contributing to the emergence of
a particular problem. Moreover, it is usually hypothesized that risk factors
add up. Increasing exposure to risk increases the likelihood of drug use line-
arly (e.g. DeWit & Silverman, 1995).

Even though research detecting risk factors for adolescent substance use
provide important information for drug prevention, not all these factors can
be altered by preventive interventions. A family history of alcoholism is an
example of one such factor (Hawkins, Catalano & Miller, 1992). However,
within the risk factor approach attention is increasingly being given to so-
called protective factors. A reason for this is the observation that also
among populations heavily exposed to risk, certain individuals manage this
exposure successfully (see e.g. Jackson, Born & Jacob, 1997). When faced
with the most extreme circumstances, some individuals seem to be pro-
tected from developing problems such as drug abuse or delinquency.
Though being similar in predicting future outcomes, protective factors are
seen as conceptually distinct from risk factors. Absence of risk is not the
same as protection (DeWit & Silverman, 1995; Fraser & Richman, 1999).
Instead, protective factors are usually defined as factors which mediate or
moderate the effects of risk factors. For example, the effect of being involved
in a drug using peer group on adolescent drug use may be buffered by a
strong attachment between parent and adolescent (Brook, Brook, Richter &
Whiteman, 2003). Besides this, some protective factors might interact with
other protective factors. They strengthen the positive effect of other
protective factors. An example of one such interaction is that certain father
characteristics enhance the protective effect of adolescent conventionality
on adolescent substance use (Brook, Brook, Richter & Whiteman, 2003).
Research has shown that risk and protective factors for adolescent substance use are plotted across several domains. Examples of these domains include the individual, the family, the peer group and the larger community (e.g. Hawkins, Catalano & Miller, 1992). Though several protective factors have been identified, more evidence exists regarding risk factors. While several risk factors are of different type, many are similar in that they are ‘framed’ by an overall deficit model of adolescent substance use (cf. also Rhodes et al, 2003 for a similar view). Examples of such factors are dysfunctional genes, low academic performance, low self-control and self-esteem, poor family management skills, low bonding to family, extreme economic deprivation and alienation from dominant social values (cf. Hawkins, Catalano & Miller, 1992; Rhodes et al, 2003; Swadi, 1999 for extensive reviews). The general notion is that adolescents use substances because they lack something.

Arguably, this tendency is corroborated by the fact that the protective factors often are the opposite of deficits. Examples of these include strong attachment to parents, commitment to school and beliefs in the generalized expectations, norms and values of society (Hawkins, Catalano & Miller, 1992). Under the next heading, the way this general deficit model underpin school-based drug education approaches will be further discussed.

Drawing upon the comprehensive risk factor framework, ‘prevention science’ has emerged as a cross-disciplinary research domain. As Kellam, Koretz and Mościcki (1997) put it, prevention science is neither biological, psychological nor social but multidisciplinary in theory, methods and interventions. One of the driving forces behind the establishment of prevention science is the recognition that the e.g. drug abuse and mental health problems have multi-factorial etiologies. A truly interdisciplinary scientific framework is thus required. In outlining the principles of this research discipline, Coie et al. (1993) states:

The goal of prevention science is to prevent or moderate major human dysfunctions. An important corollary of this goal is to eliminate or mitigate the causes of disorder. Preventive efforts occur, by definition, before illness is fully manifested, so prevention research is focused primarily on the systematic study of potential precursors of dysfunction or health, called risk factors and protective factors, respectively…Prevention science research explicitly addresses the complex biomedical and social processes believed to influence the incidence and prevalence of mental illness. Preventive interventions aim to counteract risk factors and reinforce protective factors in order to disrupt processes that contribute to human dysfunction (p. 1013, original emphasis).
Although Coie and colleagues’ recommendations primarily concern the mental health field, similar suggestions have been put forth in the drug prevention field. For example, the first principle in US-based National Institute of Drug Abuse’s (1997) research-based guide for best drug prevention practices states that ‘prevention programs should enhance protective factors and reverse or reduce risk factors…’ (p. 2).

The deficit model and school-based drug education

At the same time as there is agreement that prevention should target a vast range of factors, the simple truth is that preventive work conducted in a given setting only can target those factors that actually are malleable to change within this setting (Hansen, 1993). Given these constrains, preventive approaches usually presume that among alterable variables, one (or a few) is (are) of fundamental etiological importance (Gorman, 1996). When it comes to school-based drug education, three main approaches can broadly be discerned according to which variable (or variables) is (are) assigned greatest etiological weight:

- Information dissemination approaches
- Affective (-only) approaches
- Psychosocial approaches

A common approach to drug education is to provide information about drugs and their harmful effects. In chapter 1 it was shown that the Swedish school-based drug education has been described as ‘fact-oriented’ and ‘risk-fixated’. Evidence suggests that this characteristic to a large extent may apply to other countries as well. An observational US study found that among the school classes studied, about 50 percent of all education focused on providing students with knowledge (Hansen & McNeal, 1999). Likewise, in a national US survey it was found that nine out of ten schools provided information about tobacco, alcohol, illicit drugs and other risky behaviours (Gottfredson & Gottfredson, 2001). Areas frequently covered in this type of education include for example the effects of drug use on the human body and the various negative consequences that might follow use. Basically, the underlying assumption is that drug use is the result of a logical decision making process. If adolescents are informed about the perils of drug use, they will make a rational decision to abstain (Botvin, Botvin & Ruchlin, 1998; see also Burgess, 1997).

While it is assumed that people use drugs because they lack information, the nature and alleged function of this information may vary (Coggans &
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Watson, 1995). The information may be scientific or factual or it may be fear arousing. At one point of the information dissemination continuum, deliverers might present straightforward information regarding what science know about the effects of drug use, but also what is not known. Likewise, they might inform students which consequences are most likely to follow use, and which are not so likely to occur. At the other point of the continuum, deliverers usually emphasize or exaggerate the dangers confronting people using drugs (Coggans & Watson, 1995). At the heart of fear arousing techniques in zero-tolerance countries is the dangerousness of so-called gateway or stepping-stone drugs (cf. Peele & Brodsky, 1997). Experimenting with cannabis is often defined as more or less automatically leading to heavier illicit drug use. This in turn leads to severe problems such as crime, violence, unemployment, poverty and family dissolution (cf. Golub & Johnson, 2002).

Another version is based on harm-reduction principles. Sharing the basic assumption with other versions, this version posits that total abstinence may be an unrealistic goal. Information should instead be provided about safe and unsafe illicit drug use (Coggans & Watson, 1995). Given the national context of the present study, this version will not be further discussed.

Affective approaches do not focus so much on the drugs and their harmful effects, but rather on the needs of the individual (Botvin, Botvin & Ruchlin, 1998; Moskowitz, 1989). In a sense, then, these approaches largely move away the focus from the activity which they try to prevent. Here an assumption is made that those who use drugs have personal problems such as low self-esteem and unclear values (Paglia & Room, 1999). Typical programme components include improving young people’s self-esteem, personal insight, self-awareness and stress management. Thus, affective aspects are more emphasized than cognitive (Botvin, Botvin, Ruchin, 1998). As explained by Edmundson, McAllister, Murray, Perry and Lichtenstein (1991), these approaches evolved due to a recognition that ‘youth who became involved with smoking or drugs often had a negative self-image, were poor achievers, had trouble making healthy decisions, and were under multiple stressors from their social environments’ (p. 153). Based on these observations, focusing on providing young people with information would be to miss the target. The lion’s share of the problem is located elsewhere. Although the affective approaches nowadays often are regarded as ineffective, certain elements have been included in more extensive versions of the psychosocial approaches.

Preventive efforts referred to as psychosocial approaches can be grouped in two main categories: 1) social influence approaches and 2) comprehensive or expanded social influence approaches (Botvin, Botvin & Ruchlin, 1998).

Originally developed for smoking prevention, the social influence approaches view adolescent drug use as the result of social factors. Media and peers are seen as exerting the strongest influence, with the primary emphasis
placed on peer influences (Botvin, Schinke & Orlandi, 1995). An important assumption is that adolescents do not want to use drugs. While this is the case, it is posited that many adolescents lack the necessary skills to resist persuasive messages targeted towards them or more direct pressures to use drugs.

Based on these assumptions, social influence approaches usually include the following components, with current versions emphasizing mainly the last two (see e.g. Botvin, 2000):

- Psychological inoculation
- Resistance skills training
- Normative education

The first component is adopted from the primary prevention of infectious disease through inoculation and was central in early versions of the social influence model. By inoculating adolescents against pro-smoking messages, they would subsequently become immune against these. Thus, the procedure was analogous to how people are vaccinated against infectious diseases. Correspondingly, pro-smoking messages were referred to as ‘germs’ (Botvin, Botvin & Ruchlin, 1998). As to the inoculation process, adolescents were first exposed to weak influences to smoke and thereafter to progressively stronger pro-smoking messages. Paralleled with this exposure, they were trained in techniques to refute these messages. Examples of these included recognizing a pro-smoking message, analysing its source and developing tactics for coping with these situations (Botvin, Botvin & Ruchlin, 1998).

Psychological inoculation is similar to resistance skills training. However it relates more to cognitions and attitudes than to skills training (Botvin, Botvin & Ruchlin, 1998). In recent versions of the social influence model – also including alcohol and illicit drugs – more emphasis is given on issues such as peer resistance, say no-techniques and skills required to resist drug offers (cf. Coggans & Watson, 1995). In order to develop these skills, students are educated about what to say in a peer pressure situation and how to do this in the most effective way. Aspects include body position, eye contact, tone of voice and facial expressions (Botvin, 2000). The teaching of these techniques is usually accompanied by efforts to teach adolescents how to recognize situations where they likely will encounter peer pressure.

Furthermore, social influence approaches usually include a component called normative education. By this is meant education which attempts to undermine beliefs that drug use is widespread and accepted. It is asserted that if adolescents e.g. overestimate the prevalence of drug use, they will feel a pressure to conform to what they believe is the norm, i.e. they want to be like ’everybody else’. As distinguished from the active social influences addressed by resistance skills training, normative education thus addresses passive social influences (cf. Scheier, 2001).
The comprehensive or expanded social influence approaches reflect the social influence approaches in emphasizing deficits in skills as a key variable. Therefore, the main objective is to develop or boost these skills. But whereas the social influence approaches aim to develop a narrow repertoire of resistance skills, the other approaches also aim to develop more generic social and personal skills. Proponents maintain that the components of the social influence approaches are important but not sufficient. Training in resistance skills can therefore be seen as only one subcomponent in a broader skills training approach. Examples of aspects included are decision-making and problem-solving skills; skills for resisting interpersonal and media influences; skills for increasing personal control and improving self-esteem; and assertive skills (Botvin, 2000). The notion that a broad grip is needed is based on a theoretical model that defines substance use as the result of an interaction between several intrapersonal and interpersonal factors. For example, social influences are not only believed to have the strongest impact on people with poor competence or drug resistance skills, but also on people with certain psychological problems (see Botvin & Kantor, 2000).

A brief classification of key etiological variables and main strategies of the different approaches is given in Table 2.1. The classification should be understood as an analytical simplification. As a matter of fact, many programmes include components from more than one approach. A notable example of this is the so-called DARE (Drug Abuse Resistance Education) programme, which especially in the US has been a centrepiece in the drug education field. The DARE programme attempts to improve young people’s resistance skills but it also includes information about the effects of drugs (see e.g. Bean, Bryman, Cramer & Nemitz, 1998). Information about short- and long term effects of alcohol, tobacco or illicit drug use is included in the comprehensive LST programme as well (see Botvin & Kantor, 2000).

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13 One definition of a prevention programme is ‘a preventive programme means an intervention with one or several components described in a manual. The manual can either be a simple description of the procedures in the programme, or a comprehensive material with video films, workbooks, etc.’ (Forster, 2003, p. 10, my translation).

14 A slightly modified version of the DARE programme also exists in Sweden (National Institute of Public Health, 2003), called VÅGA (which means dare in Swedish).
### Table 2.1. Basic conceptualizations of different school-based drug education approaches.

<table>
<thead>
<tr>
<th>Approach</th>
<th>Key etiological variable(s)</th>
<th>Main strategy/strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information dissemination approaches</td>
<td>Lack of information</td>
<td>Provide information about drugs and drug effects</td>
</tr>
<tr>
<td>Affective (-only) approaches</td>
<td>Personal problems</td>
<td>E.g. Improve self-esteem, self-image, personal insight, self-awareness, decision-making and stress management. Clarify values</td>
</tr>
<tr>
<td>Psychosocial approaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Social influence approaches</td>
<td>Poor resistance skills</td>
<td>Improve resistance skills</td>
</tr>
<tr>
<td></td>
<td>Inflated beliefs about drug prevalence and norms surrounding drug use</td>
<td>Provide accurate information about e.g. drug prevalence</td>
</tr>
<tr>
<td>2) Expanded/comprehensive social influence approaches</td>
<td>Poor generic personal and social skills</td>
<td>Improve generic skills through a range of modes E.g. improve decision-making and problem solving skills, skills for resisting social influences, skills for increasing personal control, assertive skills</td>
</tr>
</tbody>
</table>

### Evaluations of school-based drug education

An array of evaluative studies has during the last decades been conducted in the area of drug education. The vast majority of these come from the US, where most programmes also have been developed. Universal prevention programmes have been the main focus of the evaluations, i.e. programmes that within particular schools target the whole student population irrespective of students’ drug use or risk status. Unfortunately, this research does not give clear-cut answers as to what can be expected from school-based drug education. As Tobler, Roona, Ochshorn, Marshall, Streke and Stackpole (2000) put it: ‘Hundreds of studies of school-based drug programs have led to widely
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differing conclusions about whether programs work, which programs work, and how well they work’ (p. 275). Valuable help for making sense of all these studies comes from meta-analytical reviews. Though critical voices have not been absent, proponents argue that meta-analyses allow for more accurate conclusions than those obtained in primary studies or traditional reviews (see e.g. Rosenthal & DiMatteo, 2001). Very briefly, a meta-analysis allows for a quantitative synthesis of effect sizes documented in primary studies, yielding an estimate of what these studies say together (Tobler, Roona, Ochshorn, Marshall, Streke and Stackpole, 2000). For a discussion about the principles of meta-analyses, see Rosenthal and DiMatteo (2001).

The first meta-analysis in the drug education area was conducted by Tobler in the mid 1980s (see Tobler, 2000). A series of further analyses have been conducted since then. However, there is notable variability among extant meta-analyses. For example, some analyses are confined to a given programme or approach, whereas other more or less cover the entire field. In a similar vein, some analyses only focus on a given substance whereas other includes a range of legal and illegal drugs. Many of these estimate effects on several outcomes such as knowledge, attitudes and drug behaviour. In the following, only behavioural effects are considered.

As a part of a larger review of drug education, White and Pitts (1998) conducted two meta-analyses of methodologically sound studies evaluating the effectiveness of school-based drug education. The authors specifically focused on illicit drug use. The first analysis regarded short-term effectiveness (up to one year beyond the delivery of the programme). The second regarded long-term effectiveness (two years or more). The correlation coefficient \( r \) was used as the effect size estimate\(^\text{15}\). The authors showed that the effects of the interventions were small and decreased over time. Weighted mean effect sizes (WES) were 0.037 for short-term evaluations and 0.018 for long-term evaluations. As noted by the authors, one way of expressing an effect size of 0.037 is that 3.7 percent of those who would use drugs delay their onset of use or are persuaded to never use due to exposure to school-based drug education.

Focusing only on smoking, Bruvold (1993) conducted a meta-analysis of different interventions based on a classification scheme similar to the one

\(^{15}\) In meta-analyses there are two main ‘families’ of effect sizes, the \( r \) family and the \( d \) family (Rosenthal & DiMatteo, 2001). Very briefly, the first concerns correlations between independent and dependent variables and the second differences in means. In the context of drug education, the correlation coefficient is an estimate of the strength of the association between being exposed to an intervention and a given outcome such as drug use. With the latter are meant differences in means between the group exposed to the intervention and the control/comparison for a given outcome such as drug use. Except for the White and Pitts (1998) study, most referred meta-analyses use differences in means as the effect size estimate. If doing otherwise, this will be explicitly stated.
presented in table 2:1. This design allowed a comparison of the relative efficacy of different programmes. In order to group different programme orientations a fourfold typology was used: rational (information), developmental (affective orientation), social norms (alternatives, e.g. recreational activities) and social reinforcement (social pressures). Results showed that behavioural effects were largest for programmes with a social reinforcement orientation and smallest for the rational orientation. This was found both in an analysis of all included studies and in an analysis of a subset of the most methodologically sound studies. For example, the WES at third follow-up (time-period not reported) for the social reinforcement programmes were 0.27 in both analyses. This can be contrasted with the WES for the rational oriented programs at third follow-up (time-period not reported) which was -0.1 in both analyses.

As noted above, some meta-analyses have also been conducted into a specific drug education approach or into a specific programme. Specific analyses of the effectiveness of the DARE programme can be mentioned here, as this has been a very popular programme in the drug education field. Some ten years ago Ennet, Tobler, Ringwalt and Flewelling (1994) evaluated the short-term effectiveness of project DARE and West and O’Neill (2004) have recently made an updated meta-analyses of this programme. Ennet et al. found small short-term effects on drug use (marijuana, alcohol and tobacco included) – the mean WES was 0.06. Separate effect sizes were also computed for the three substances separately. The WES for tobacco was 0.08, for alcohol 0.06 and for marijuana -0.01. The small behavioural effects detected in this study were confirmed in West and O’Neill’s meta-analysis. Expressed as a correlation coefficient, the WES for all studies included were $r = 0.011$ and as differences in means $d = 0.023$. According to the authors, the effect sizes found would have to be twenty times larger to be even small.

Hwang, Yeagley & Petrosa (2004) recently conducted a meta-analysis of studies evaluating psychosocial smoking prevention programmes in the US. Prior to analyses, programmes were classified according to two criteria: modalities and settings. With modalities was meant theoretical orientation and implementation strategy of the programmes. The modalities were social influence, cognitive behaviour and life skills. The first and last of these have already been discussed above, and cognitive-behaviour can be seen as programmes that lie between social influence programmes and life skills programmes in comprehensiveness. The settings were school-based only or school-community incorporated settings (including e.g. community members and/or community involving activities such as sports or cultural activities).

16 According to the authors, cognitive behaviour modality programmes included the elements of the social influence modality plus at least two cognitive skills such as problem solving, decision making and assertiveness. Life skills programmes included the components of the social influence and cognitive behaviour programmes plus at least one affective skill such as self-confidence and values clarification.
Effect sizes estimated concerned short term-effects (one year or less) and long term (more than one year). Two long-term measures were further used: long-term 1 (13 to 36 months) and long-term 2 (37 months or more).

Differences were found between programme modalities. Social influence programmes were found to have the smallest behavioural effect, both in the short and long term. For example, the effect size for social influence programmes at short-term follow up was 0.12 which can be compared to 0.21 for cognitive behaviour and 0.29 for life skills programmes. Interestingly, while the behavioural effects of the life skills programmes decreased between short-term and long-term 1 (to 0.16), it remained intact for the cognitive behavioural programmes. However, the authors argue that it would be difficult to determine whether the life skills programmes are better than the cognitive behavioural programmes or vice versa. Neither showed consistently higher effects across the different outcomes measured. Though this section mainly refers to research examining school-based drug education, it can be interesting to note that whereas the behavioural effects of school-setting only decreased between short-term and long-term 1, the pattern was the opposite for the incorporated setting.

The most comprehensive meta-analysis conducted in the field of drug education so far has been conducted by Tobler and colleagues (Tobler, Roona, Ochshorn, Marshall, Sreke & Stackpole, 2000). This analysis included 144 primary studies evaluating 207 school-based programmes in total, with programmes being the unit of analysis. Programmes were classified into ‘non-interactive’ and ‘interactive’ based on a combination of programme content and delivery methods. Approaches classified as non-interactive were knowledge-only, affective-only, decisions/values/attitudes, knowledge-plus-affective and DARE-type programmes. Approaches classified as interactive were social influence, comprehensive life skills and system-wide change. The latter could be a school-based programme plus community/media/family or a change in the entire school-system. In order to analyse all programmes together, effect sizes based on drug use outcome within one year of pre-test were combined with effect sizes based on drug use outcome collected more than one year later. Except for the analysis of the whole data set, additional analyses were made on a subset of high quality evaluations (including e.g. random assignment to control and intervention group).

The WES estimate for the full sample was 0.05 for the non-interactive programmes and 0.15 for the interactive. The WES obtained from the high-quality subset was 0.03 for the non-interactive and 0.16 for the interactive. In addition to interactive programmes showing greatest effect sizes, the authors found some variations within this category. Though effectiveness did not significantly differ between the three interactive programmes, it nevertheless appeared to increase the more components were added. Thus, the largest effect size were detected for system-wide change programmes (all = 0.27,
subset = 0.22), followed by comprehensive life skills programmes (all = 0.17, subset = 0.17) and social influence programmes (all = 0.12, subset = 0.14).

So what conclusions can be drawn about the effectiveness of school-based drug education? Apparently, available evidence clearly suggests that psychosocial approaches are superior to ‘pure’ information dissemination approaches or affective-only education approaches. In other words, they appear to be relatively more effective. Nevertheless, the effect of psychosocial approaches on drug use is rather small. This is suggested by the fact that a common indication for a small effect is $d = 0.20$. However, it should be stressed that even small effect sizes can have a substantial impact on large populations\(^\text{17}\).

It has been suggested that the effects of social interventions such as school-based drug education are supposed to be small since the target is affected by many other factors (Tobler et al, 2000). While there clearly is an upper limit as to how effective school-based drug education might be, few would argue that the effects obtained so far is the best that can be achieved. At the same time as the programmes usually consist of several components, evaluations have normally only considered the effect of the whole programme (White & Pitts, 1998). This makes it hard to determine what part(s) of the intervention is(are) most important (see Cuijpers, 2002). As a consequence, researchers have emphasized the importance of singling out the effective ingredients of drug education.

An inevitable step in this endeavour is to disentangle the less effective ingredients. Although there is variability regarding the comprehensiveness of the psychosocial approaches, targeting peer pressure is clearly a key component (Gorman, 1996). Below, I try to show that the effect of peer pressure might have been exaggerated. The implications are discussed further below.

**Peer pressure or peer preference?**

The notion that peer pressure is amongst the most important determinants of adolescent substance use has become conventional wisdom. The scientific foundation for the peer pressure thesis derives from a strong and consistent association found between adolescents’ substance use and the substance use

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\(^{17}\) Discussing a similar topic, Rosenthal and DiMatteo (2001) refers to a clinical trial of the effect of taking aspirin on heart attacks. In this study an effect of $r = 0.034$ was detected, which according to the common indication should be regarded as very small. Rosenthal and DiMatteo point out that among people with comparable risk factors as those in the study, 34 out of 1000 persons would avoid heart-attacks if they used low dose aspirin regularly. The authors argue that given the ease, low cost and safety of low doses of aspirin in combination with the seriousness of heart attacks, the small effect detected could be of significant importance in reducing mortality and morbidity.
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of their peers. Much of this research has been cross-sectional where adolescents have been asked to report the consumption habits of their peers.

However, as the heading of this section indicates, a growing number of researchers have questioned whether this association has been accounted for properly (Bauman & Ennet, 1996; Coggans & McKellar, 1994; Coggans & Watson, 1995; Denscombe, 2001; Gorman, 1996; Kandel, 1996; McIntosh, MacDonald & McKeganey, 2003; Mitchell & West, 1996). These researchers point out that the design of the research often referred to does not allow for conclusions of peer pressure effects to be drawn. Two main observations support these claims: 1) that friendship to a large extent is determined by substance use (selection) and 2) that adolescents to a large extent attribute their own substance use behaviour to their friends (see e.g. Bauman & Ennet, 1996; Kandel, 1996; Kobus, 2003).

The first point proceeds from the fact that it is not possible to make causal inferences of this type in cross-sectional studies. An association does not in itself imply that adolescent substance use is a result of peer influences. It could just as well be explained by selection effects, i.e. that adolescents with certain attributes chose individuals sharing these attributes as friends. This selection process has for example been documented in the delinquency literature, known as the ‘birds of a feather flock together’ phenomenon (see e.g. Reed & Rountree, 1997). In examining the relative contribution of selection and influence, a few notable studies have used longitudinal panel designs. This design has allowed for an examination of the extent to which similarities between friends preceded friendship formation (selection) and to what extent these developed over the course of the relationship (influence) (cf. Kobus, 2003).

In an often referred analysis, Kandel (1978) used a panel sample of friendship dyads to study to what extent friendship similarities is due to selection and to what extent it is due to socialization. Similarities in four characteristics were studied, including frequency of marijuana use. Three types of friendship dyads were compared at two time points: 1) dyads that remained stable over time, 2) dyads that dissolved over time and 3) dyads that became friends over time. The findings showed that selection and socialization is of equal importance for similarities in marijuana use. This suggest that similarities between friends ‘results from two complimentary processes whereby adolescents who share certain prior attributes in common tend to associate with each other and tend to influence each other as the result of continued association’ (p. 435).

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18 Which is adopted from the title of a paper by Coggans and McKeller (1994).

19 The three other characteristics were level of educational aspirations, political orientation and participation in minor delinquency.
Also using data from a panel study (three-wave) Aseltine (1995) examined the relative influence of peers (and parents) on adolescent delinquency and marijuana use. Interestingly, although the findings showed the importance of associations with deviant peers in accounting for delinquency and marijuana use, the ways in which delinquent and marijuana-using peer groups were created and maintained differed in one notable sense. Whereas the analysis showed that youths seem to be socialized into delinquency by their peers, selection played a large role in accounting for similarities in marijuana use among peers. One major conclusion was therefore that estimates of peer influence on adolescent drug use may be ‘grossly exaggerated’ (p. 116) in analyses not controlling for selection effects.

Besides these studies, additional research (e.g. analysing networks of adolescents) about the effects of peer influence and peer socialization is reviewed by Bauman and Ennet (1996). These authors also reach the conclusion that failure to control for selection likely overestimate the contribution of peer influence. Similar conclusions have been drawn by e.g. Dencombe (2001), Gorman (1996) and Coggans and McKellar (1994).

The next main argument against extrapolating peer influence from cross-sectional studies comes from the reliance on adolescents’ reports of their friends’ substance use. At first glance, this distinction might seem overly subtle. But it has been shown that the correlations obtained in ‘perceptual’ reports are larger than what is found in friends’ self-reports. This suggests that adolescents are inclined to attribute their own behaviour to others (Bauman & Ennet, 1996; Kandel, 2003). Correlations based on adolescents’ perception of their friends’ behaviour hence lead to inaccurate estimates of the ‘real’ magnitude of the association. For example, Kandel (1996) refers to a study by Huzinga et al. where the correlation between adolescents alcohol drinking and their friends were 0.50 when based on perceptual reports and 0.23 when based on friends’ self-reports. The correlations for marijuana and other illicit drug use were 0.51 and 0.15 respectively. These differences are notable. It should be stressed though that not all extant studies have shown such large discrepancies.

To the extent peer influence/pressure have been overestimated, the implications are considerable. It is particularly so for social influence approaches. It has been suggested that this might explain why programmes stressing peer influences have not been able to produce larger effects (Bauman & Ennet, 1996; Gorman, 1996; Kobus, 2003). The point is not that peers do not exert an influence at all. It is rather that one-directional peer influence explanations provide only a half-valid explanation of the dynamic and reciprocal character of peer relations. In this respect, social interaction might be a more adequate label (cf. Alestine, 1996).

It should be noted that there is a distinction to be drawn between peer influence and peer pressure. Certainly, there are cases when young people
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are forced to use substances. However, this does not appear to be the most common type of social influences. Research in the area of smoking, for example, consistently shows that this influence is mainly normative (Kobus, 2003 for a review). Rather than being a result of coercive pressures, adolescents’ decisions to smoke reflect predetermined choices about e.g. fitting in, social approval and popularity20 (see Reed & Rountree, 1997 for a similar conclusion regarding alcohol and marijuana use). The fact that passive influences seems to be more central than active influences is concluded in an extensive WHO drug prevention review too (Hawks, Scott & McBride, 2000). There it is recommended that normative education should be incorporated in school-based programmes, but that the use of resistance skills training should be restricted.

The fact that especially the social influence approaches underestimate adolescents’ own aspirations to use drugs is a central point of departure for the following chapters. It could also be noted that the assumption that adolescents do not want to use drugs have been criticized by proponents of the expanded version (Botvin, Schinke & Orlandi, 1995). According to them, for some individuals external pressures is not the main issue. Instead, they are attracted to drug use because of its perceived utilities. These utilities are usually linked to adolescents’ desire to compensate for ‘shortcomings’ in life. Common examples of these are low self-esteem, shyness and social anxiety. As a compliment to these, chapter 3 addresses recreational motives. As such, it builds upon a fraction of the drug prevention literature which stresses the importance of considering young people’s beliefs about the positive sides of drug use. Within this literature, critique of the peer pressure thesis is often followed by warnings about giving too much weight on deficits in general (Coggans & McKellar, 1994; Coggans & Watson, 1995; Paglia & Room, 1999). According to this view, a problem with most drug education is that it fails to acknowledge that many young people experiment with drugs not because they have poor resistance skills or poor self-image, but because they believe it will be pleasurable (Coggans & Watson, 1995).

Clearly, in the context of drug education one need to consider the impact larger social and cultural trends have on the target group of the

20 Valuable information about the shape of this subtle influence comes e.g. from Denscombe’s (2001) focus group interviews with young people about smoking. Importantly, the young people participating in this study stressed the distinction between influence and pressure and that this distinction was crucial for them in their relation with peers. The influence of peers was seen not as a matter of threat or force, but as subtle in which there was room for individual choice. While acknowledging the reality of influence from peers, this influence was mainly described in terms of a self-felt need to fit in and a willingness to encounter situations likely to encourage smoking. A main finding was thus that participants actively put themselves in positions where they could be influenced by the group, implying that the resulting influence in a sense was voluntary rather than imposed externally.
The zeitgeist ‘framing’ drug education at present is not the same which ‘framed’ drug education two or three decades ago. Thus, at the same time as e.g. LST programmes are grounded in theories of delinquency (Coggans & Watson, 1995), ‘there may also be some relevancy issues for contemporary youth as the fundamental programme elements… were developed up to 20 years ago’ (Hawks, Scott & McBride, 2000, p. 45). In what follows, then, I will try to show that the ‘pleasure theme’ has become a pervasive feature in contemporary mass consumption societies and that it is relevant to take into account for drug education.

Besides the central role played by pursuits of pleasure, notions of risk are vast. In this risk society (Beck, 1992) people are everyday exposed to information about risks. While there is a general agreement in the field that only providing information is insufficient, many argue that information is an inevitable part of any intervention (e.g. Hawks, Scott & McBride, 2000; Morgan, 2001; Paglia & Room, 1999; Tobler, 2000). In what follows, this information is situated in a broader risk information context. As described above, the fundamental assumption underlying information approaches is that lack of information promotes use. A crucial aspect to consider prior to disseminating more information is how aware the receivers already are of the risks. Drawing upon more general research and theory into this risk society, chapter 3 highlights the question if there is reason to believe that the room left for change is restricted.

Most likely, the social climate of a given time is important as regards substance use and related beliefs in general, albeit the extent of its impact would be virtually impossible to measure. According to Flay and Pertraitis’ (e.g. Flay & Pertraitis, 1994) theory of triadic influence—a meta-theoretical framework accounting for theories of substance use and health-related behaviours at different levels—the socio-cultural environment is one of three ultimate or root causes behind a given behaviour (the other two are social situation and personality/biology). To exemplify this point, Flay and Pertraitis refer to Johnston’s (1991) argument that the turbulence in the US during the Vietnam War contributed to substance use indirectly by increasing a general feeling of social alienation. Regarding individual’s health behaviours, the authors maintain that these are affected by overall trends in society promoting the adoption of healthy lifestyles. By and large, then, the more general discussion in the next chapter about typical signs of the times should fit well with Flay and Pertraitis’ principle assertions about how to think about substance use and other behaviours. A notable study comparing adolescents’ motives for substance use between the mid 1980s and the late 1990s also show an increase in ‘recreational’ motives (e.g. to have fun) over time (Palmqvist, Martikainen, & Rauste von Wright, 2003). This is, however, not to suggest that models of substance use developed many years ago have to be invalid today. There is empirical evidence that several risk-/protective factors have remained stable over time (Brown, Schulenberg, Bachman, O’Malley & Johnston, 2001).
CHAPTER 3

The themes of risk and pleasure

In this chapter I elaborate on the themes of risk and pleasure. Broadly, these two themes enclose the rest of the study. The aim of this chapter is to outline two distinctive features of the broader context ‘framing’ receivers of drug education. The way that respectively theme is approached is to be seen against the role risk and pleasure play in the drug prevention field. Although a certain degree of relationship can be expected between the two themes, they are discussed separately. It should be mentioned that each theme include several sub-themes. For economical and relevancy reasons, I primarily discuss issues crucial from a drug preventive perspective.

The risk theme

A quote by Wildavsky (in Slovic, 1987) will serve as the entrance to the discussion of risk. ‘How extraordinary! The richest, longest lived, best protected, most resourceful civilization, with the highest degree of insight into its own technology, is on its way to becoming the most frightened’ (p. 180).

In this short passage Wildavsky puts his finger at one of the more distinctive features in contemporary modern societies. What is called attention to is that these societies have become almost obsessed with how to avoid, or deal with, risks associated with human conduct. Paradoxically, while enormous efforts have been made to make life safer and healthier, many have become more, not less, concerned about risk. They see themselves as exposed to more risks than were faced by people in the past, and believe that this situation is getting worse, rather than better (Slovic, 2001). Products once assumed to be harmless – such as food – proves not to be so, and sources of wealth – such as technology – appears to be sources of danger (Shaw, 2004). Evidently, today it is virtually impossible to open a newspaper or watching the news without being exposed to information about risks (see e.g. Breck, 2001).

In the wake of this, it is hardly surprising that many theoretical analyses have been devoted to risk during the last decades or so. As Lupton (1999a) posit, the phenomenon of risk and the role it plays in modern societies have
become one of the liveliest areas in social and cultural theory. While there is disagreement among scholars regarding several issues, most involved argue that risk has become a central cultural construct. Among risk theorists, German sociologist Ulrich Beck is probably most well-known. Beck is also credited for having coined the term *Risk Society*. Beck's ideas has led to considerable international debate and stimulated research about risk in a variety of research domains (Jones, 2004), including research into the role risk plays in the life of contemporary youths (Mitchell, Bunton & Green, 2004). While many scholars focus on more narrow risk related issues, Beck's work can largely be seen as a broader societal diagnosis.

In a book entitled *Risk Society*, Beck (1992) sketches the contours of a society standing on the threshold between a stadium marked by the positive logic of wealth distribution and a stadium characterised by the negative logic of risk avoidance. Beck's hypothesis is that at current a turning point occurs within modernity. It 'detaches' itself from the contours of the classical industrial society and surface in a new form – the risk society. Beck's risk analysis is closely linked with a wide ranging macro-sociological analysis of modernity. He argues that we are in a state of reflexive modernization at present. The modernization process has become an issue and a problem for itself. Contrary to what reflexive, as understood by Beck, might signify at first glance, it should not be equalised with reflection or contemplation. Rather, it should be understood as self-confrontation (Beck, 1995). With reflexive modernization is meant that modern societies to an extent never before are confronted by unintended consequences produced by modernity itself. The argument is that in 'first modernity' a high faith in the ability to achieve control, progress, certainty and security prevailed. In the second phase, these modern key-words are to a considerable extent called into question by wide-ranging social processes such as individualization and the production of global risks (Beck, 1999). It is within this broader context of uncertainty and insecurity that risk is located as a key-concept in Beck's and others' analyses. To a considerable extent, risk has become a marker of feelings of anxiety and fear (Lupton, 1999b).

It should be noted that Beck's work mostly dwells upon technological and environmental risks. However, it is evident that the concept of risk pervades other areas as well. For instance, Skolbekken (1995) searched for medical articles containing the concept in the database MEDLINE, covering the years 1967-1991. His findings reveal that the number of risk-articles published has increased from about 1000 during the first five-year period, to more than 80000 in the last five-year period. More than half of the articles were published between 1987 and 1991. Skolbekken found that the number of risk-articles has increased much faster than the general increase in the total number of published articles, i.e. the increase is not merely a reflection of a general increase of published articles. The author concludes that this clearly
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The themes of risk and pleasure resembles what might be called a ‘risk epidemic’ (p. 297). In a related vein, a Swedish study found that among bills submitted to the Swedish parliament, from the mid 1960s to the mid 1990s those related to risk increased from about 10 percent to 30 percent (Sjöberg, af Wåhlberg & Kvist, 1998).

But what is risk and what does it mean? Unfortunately, Beck does not offer a clear-cut definition of the concept. But other authors have, and they usually point out that it contains two components: one concerning probability or possibility and one concerning negative consequences or undesirable states (e.g. Sjöberg, 1994). Thus, basically, risk means the likelihood or probability that a negative outcome will occur.

However, Beck is less concerned about conceptual definitions as about the logic of risk. In World risk society, Beck (1999) suggests how to think about this issue: ‘Risk is the modern approach to foresee and control the future consequences of human action, the various unintended consequences of radicalised modernization. It is an (institutionalized) attempt, a cognitive map, to colonize the future’ (p. 3). The high awareness of risk implies that the future to a large extent has become the ‘cause’ of present decisions. Increasingly, the past’s power to determine present actions is thus largely replaced by something not yet existing. Something constructed and fictive becomes the reason for today’s experiences and actions (Beck, 1992; 1999). Risks are therefore in a sense both real and unreal. Inevitably, they refer to something not yet occurred. But to the extent they shape present concerns, they obviously have a real impact.

People are exposed to risks in almost everything they do. The food they eat, the medicine they use, the substances they take – all may pose threats to health and well-being. As noted by Beck (1992), to breath, live and dress – everything is imbued with risk. To travel away offers as little help as eating muesli. The point is not primarily that many activities, situations or substances inevitably are dangerous. Rather, it is that they probably are so. The specific logics of risk reasoning imply that instead of ‘if you do this, that will happen’ – ‘if you do this, that may happen’.

As an attempt to reduce or manage the element of uncertainty, there has been an enormous growth in risk assessments. A typical example of this is epidemiological studies of drug use. Through statistical analyses, the risk is calculated for different types of negative outcomes, be it drug use as such or harm resulting from use. In the former case, attempts are made to detect factors increasing the risk for drug use. In the latter case, drug use is treated as a risk factor for another negative outcome, such as mental problems. Hence, the concept of risk is capable of operating across almost all domains

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22 Fox (1999) points out that before the era of modernity, risk was a neutral term concerned with probabilities both in relation to losses and gains. Thus, it is first in modernity that risk has become reserved for negative and undesirable outcomes.
of human existence. For example, it can be linked to who people ‘are’ (individual risk factors), to where they are (socio-demographic risk factors) and to what they do (activities or substances as risk factors). Notable is that at least 70 different risk factors for substance use/abuse have been identified only at the individual level (Swadi, 1999). Attempts to identify these and other risks have during the last decades been so intense that some authors have compared them to the witch-processes of medieval Europe (see Skolbekken, 1995). During the witch-processes there was a development of more and more sophisticated methods for witch-identification. This development, it is argued, can be compared to the present situation where increasingly sophisticated statistical tools facilitate more and more precise risk assessments.

As Skolbekken notes (1995), ascribed a causal status, the risk factors become diseases to be cured. An increase in identified risk factors means an expansion in diseases that can be treated and the number of people in need of treatment. Petersen (1997) contends that this development has implied that the distinction between healthy and unhealthy populations disappears. Everything is a potential source of risk. Almost everyone can be seen to be at risk. Confirming this statement, for instance, in a recent article focusing on risk factors for cardiovascular disease it is stated: ‘the “healthy person” is an outdated concept from the era before scientific prevention. We should recognize that in Western society we all have cardiovascular risk factors, so everyone is at risk’ (Franco, Bonneaux, de Laet, Peeters, Steyerberg & Mackenbaach, 2004, p. 1449, emphasis added).

Risk and the individualization thesis

Theorists such as Beck (e.g. 1992) and Giddens (e.g. 1996) emphasize that a profound de-traditionalization is taking place in contemporary western societies. One major consequence of this is, allegedly, a decline in collective organizations of life and an increase in individual specific ditto. This idea is summed up in the term institutionalized individualization (Beck, 1992; 1999; Beck & Beck-Gernsheim, 2002).

The term does not mean that inequalities have disappeared or that all individuals have the same opportunities in life. Neither does it mean that individuals alone can master their whole life. Instead, it refers to a social condition where people increasingly are ‘forced’ to choose between multiple of options without reference to traditional habits. In order to illustrate this point, Beck and Beck-Gernsheim (2002) call the late modern individual a ‘homo optionis (p. 5) and further maintain that ‘people are condemned to individualization’.

As a corollary of this, not only are risks of focal concern in contemporary societies. Largely by themselves, people have to plan their lives so as to
avoid risk. From this view, individuals are conceived of as aiming to colonise the future as an inevitable part of their life-plans (Giddens, 1997). Thus, a sense of risk is said to be increasingly important both in public and private domains. A world of notions of fate and chance is changed into one concerned with issues such as probability, rational calculation, risk profiling and risk management (see Mitchell, Crawshaw, Bunton & Green, 2001).

This does not imply that people have the responsibility to manage all risks they are exposed to. Many risks continue to be understood as outside people's personal control. An example of this is risks posed by climate changes. In the literature, a distinction is often drawn between environmental and lifestyle risks (see e.g. Gabe, 1995). The latter are those risks that people are assumed to protect themselves from. Yet, some signs suggest that the number of risks deemed to be within the control of individuals is expanding, even when it comes to young people.

In a book devoted to this topic, Furlong and Carmel (1997) maintain that young people increasingly see themselves as living in a society permeated by risks which they have to deal with individually. One of Furlong and Carmel's main points is that contemporary youth's lives to a large extent revolve around an 'epistemological fallacy'. Young people's understandings of the world tend to underestimate the impact of underlying structures. There is a growing gap between objective and subjective dimensions of life. A category such as social class continues to influence young people's lives. But this influence is gradually becoming obscured among these in favour of individualistic interpretations.

A similar line of thinking is present in some versions of contemporary psychological theory. Here, individuals are hardly thought of as passively responding to external cues. Instead, they are seen as interacting with their inner selves (Ogden, 1995). According to Ogden, this conceptualization has repercussions for where the risks to one's health are localised. She reviews among other things theories of stress, pain and addiction and concludes:

The risk is no longer external to the self... The risk to health is conceptualized as an internal, malleable and manageable self. The risk to health comes from the individual's presence or absence of self control which manages and masters the changeable drives that expose the body to threats...In the late twentieth century the individual has become at risk from his or her self (p. 412-413).

The central role played by the theme of self-control has also been extensively discussed by critical social theorists. But here the primary interest concerns issues of discipline, power and surveillance. Drawing upon Foucault's (1991) studies of 'governmental rationality' these authors claim that risks have come to serve as a vehicle for what is called the 'conduct of conduct' in neo-liberal societies. By this is meant a form of governmental activity aiming to shape, guide and affect the conduct of people or populations
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(see e.g. Gordon, 1991 for an introduction). Analysts in this tradition view the citizens as active rather than passive subjects of governance. The regulation and discipline is directed towards the autonomous, self-regulating individual (Lupton, 1999b). Allegedly, power is not so much a matter of putting restrictions on individuals as of making them capable of bearing a regulated freedom (Rose & Miller, 1992).

Following Foucault, governmentality-scholars maintain that the scientific expertise play a prominent role in the governing of individuals. Through statistical analyses, scientists assess risks associated with a variety of activities, substances and technologies. These results are later on presented for the citizens. Hence, the promotion of risk information is seen as a very subtle technology that makes possible the government of populations at a distance.

To a considerable extent drawing upon the governmentality-perspective, Petersen and Lupton (1996) have shown that in the area of (the new) public health the responsibility to protect the health is increasingly placed on people themselves. More and more, attempts are made to portray people as acting of their free-will and in own interests to protect their own health. People are expected to live life in a calculating way. They should take into account the risks that lurk in virtually all areas of everyday life. As fewer and fewer areas of personal and social life are indifferent to health concerns, this becomes expanding endeavour. Consistent with the governmentality-perspective, Petersen and Lupton assign great importance to the role played by scientific expertise in informing this endeavour.

**Consistent risk information?**

The governmentality-perspective offers an interesting interpretation of how to think about the central role risk and risk information play in contemporary societies. In mainly focusing on life-style risks it is more closely related to the topic under study here than what Beck’s work is. It can hardly be contested that the large amount of risk information aims at affecting people’s behaviour in given directions. Nevertheless, the question is to what extent this portrayal stand up to scrutiny. Many governmentality-scholars portray the receivers of this information as overly uncritical. Little room is given to scepticism and lack of trust (cf. Williams & Calnan, 1995 for a similar argument). When exposed to risk information, the receivers allegedly adopt behavioural changes consistent with this. However, as discussed by Beck (1992) and Giddens (1991) and empirically documented by Lindbladh and Lyttkens (2003) people often view this information as contradictory and

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23 As Petersen (2003) has shown, governmentality-scholars tend to privilege official discourses in their studies at the expense of ‘abundant evidence that governmental programmes frequently fail or are only imperfectly realised’ (p. 197).
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unstable. This suggests that the governmentality-perspective might offer a simplified view of how individuals relate to risk and risk information. Signs suggest that there are many sources of information, often pointing in different directions. In interviewing Swedish people about how they view health-related risk information Lindbladh and Lyttkens (2003) found that participants described this information as inconsistent and unstable over time.

As compared to this, however, the information related to illicit drugs, coming from ‘formal’ sources, is hardly characterised by inconsistency. At least it is not so in Sweden. On the opposite, there are few examples of ‘formal’ information which portrays illicit drug use as not very risky. In fact, in contexts characterised by a zero-tolerance approach, risk – which includes an element of likelihood or probability – tends to be equalized with harm and danger (Duff, 2003). In addition, even though there might be divergent opinions among drug researchers and other experts, it seems unlikely that ‘lay people’ are particularly aware of these disagreements.

However, while ‘formal’ risk information related to illicit drugs tends to be consistent, it is imbedded in a general flood of risk information. In this context, there are different claims, for example, how much alcohol that is safe to drink; how risky it is to use moist snuff (snus); and how much Baltic Sea cod that is safe to eat. Of course, it would be an empirical task to examine this impact. Nevertheless, it seems likely that for some individuals, perceived inconsistency in one type of risk information (e.g. related to food) might affect how they react towards other type of risk information.

Probably more important, scientifically produced risk information is but one source of risk information. Studies show that people gather health-related information from many sources, including ‘informal’ information coming from lay people (see Gray, Klein, Noyce, Sesselberg & Cantrill, 2005; O’Keefe, Boyd & Brown, 1998). Of note is that formal sources of drug information are little trusted among many young people. Instead, they often rely on information coming from their peers (Parker & Eggington, 2002).

The impact of such informal information may have notable repercussions. Lay-people often have their own understanding of risk that does not agree with established truths (Peterson & Lupton, 1996). This is illustrated in a recent Danish study into how recreational drug users estimate risks associated will illicit drug use (Korsdal Sørensen, 2005). Here it was found that estimation of risk primarily was based on own and friends’ experiences of using illicit drugs. Importantly, the author found that participants regarded public information campaigns as ‘crude and one-sided’ (p. 28).

Signs also suggest a growth in alternative expertise grounded in people’s everyday experiences and interests (Horlick- Jones, 2004). Examples of these include activists and pressure groups. It is equally trivial as true that the Internet has emerged as an important site for these. It has been noted that among adolescents, the Internet is a widely consulted source of
guidance for health-related matters, with alcohol- and drug related issues being a central topic (see Gray, Klein, Noyce, Sesselberg & Cantrill, 2005). Not surprisingly, there exists much alternative information about illicit drugs at the Internet. Often this is spread by individuals engaged in the recreational drug use scene. Examples of the more well-known sites are erowid.org and dancesafe.org (see Falck, Carlson, Wang & Siegal, 2004). The site erowid.org, for example, has according to its own information about 32000 unique visitors each day\(^{24}\). While some of these web sites are hosted by governmental or academic organizations, others convey a pro-drug message (Wax, 2002). Compared to official sources, the risks associated with illicit drug use are often defused. At the site dancesafe.org it is claimed that the likelihood of dying from cannabis use is the same as of dying from lightening or alarm clocks. The likelihood of dying from amphetamine, cocaine or ecstasy use is said to be of the same size as of dying from airplane- or rail travelling or falling from stairs.\(^{25}\) As no other comparative risk estimates are presented regarding e.g. health problems, the visitor at this homepage get the impression that illicit drug use is a low-risk activity.

The pleasure theme

While much is known about the risks of drug use, the pleasures that people may associate with drug use has largely been left unaddressed in drug research and drug prevention (Bergmark, 2004; Duff, 2004; Hunt, Evans & Kares, 2005; O’Connor & Saunders, 1992; O’Malley & Valverde, 2004; Paglia & Room, 1999; Rhodes et al, 2003; Room, 2002). As discussed in chapter 2, drug preventive programmes usually presumes that one or a few key-variables are of fundamental importance in promoting substance use. By and large, motives considered are linked to attempts to compensate for shortcomings in life. As a compliment to these, below I try to show that much substance use (here limited to illicit substances) probably is due to the users believing that this activity may provide pleasures or equivalent outcomes.

Calls for the importance of considering pursuits of pleasure are not restricted to drug research and drug prevention. In the area of psychology it has been noted that seen in light of its importance, pleasure is the most understudied topic (Russell, 2003). Similar arguments have been advanced in the area of health interventions research (Coveney & Bunton, 2003; Whitehead, 2005).

Though being understudied, extant research has addressed pleasure from different angles. Some research has examined the brain mechanisms involved

\(^{24}\) As accessed 050307.

\(^{25}\) As accessed 050309.
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in feelings of pleasure. Other research has discussed to what extent pleasure can be seen as socio-cultural construct. As shown by Coveney and Bunton (2003) different forms of pleasure has emerged in western societies such as ecstatic pleasure, ascetic pleasure, carnal pleasure and disciplined pleasure. In addition, they maintain that notions and experiences of pleasure vary by time and place. Russell (2003) also highlights these complexities seen from a psychological viewpoint. He argues that it is uncertain whether pleasure is one thing or a name for different things. Acknowledging the definitional difficulties, here it is understood broadly, much in line with a definition provided by Orley (1999):

Pleasure is a positive emotional experience related to enjoyment, contentment, and happiness. Pleasure often is used in reference to a particular situation or activity, such as reading a book, listening to music, seeing a certain view, being with certain people, eating a meal, or some combinations of these. The references are usually limited temporarily to moments; indeed, pleasure probably would stop being a positive experience if it went on for days or weeks at a time (p. 329).

Largely, this elastic definition fits well with how the term is treated in social scientific research into recreational drug use (see more below). It is often used as an umbrella-term capturing many experienced or perceived positive states. Examples of these are having fun, being relaxed, feeling physical pleasures and socializing with friends.

If the scope is broadened to include certain versions of contemporary social theory, there is strong support for focusing on the pleasure theme understood in such a way. Authors such as Bell (1976), Schulze (1997) and Maffesoli (1997) all emphasize how pivotal experiencing, having fun and seeking pleasures have become in contemporary mass consumption societies. It would probably be premature to interpret these often sweeping accounts literally, but understood as trends they have important theoretical input to offer drug prevention.

In The Cultural Contradictions of Capitalism, Bell (1976) puts forward one of the most well-known analyses of the role pleasure play in contemporary societies. For Bell, the ascetic moral underpinning the development of western capitalism as described by Max Weber has lost its sway. A new moral has emerged that supports immediate gratification of personal wants and

26 In addition, it can be contended that the work of these scholars provide an important corrective to the accounts provided by Beck and others regarding the centrality of risk in contemporary societies. This is not to suggest that Beck and others’ accounts are incorrect. It is just to suggest that it would be incorrect to conceive of the contemporary individual as one whose life only centres on how to avoid risks. Conversely, the theoretical literature into the risk society provides an important corrective to the tenets of authors such as Bell (1976) and Schulze (1997), who largely neglect risk in their accounts.
unrestrained appetite. Bell acknowledges that in the realm of production27, aspects such as work, delayed gratification and career orientation still are the legitimating principles. But in the cultural realm, the quest largely concerns self-gratification and personal expression, hedonism as a way of life. Thus, the contradictions stressed by Bell stems from the separation of two realms earlier intimately joined. This leads people in contrary directions. The consequence of this contradiction is that people find themselves being 'straight by day and swingers by night' (p. xxv). This distinction is important to bear in mind, i.e. it assigns the pleasure theme mainly to peoples’ leisure time.

The cultural realm is according to Bell characterized by boundlessness. Almost everything is to be explored. The pursuit is the expression of the self. Self-realization or self-fulfilment is to be obtained. Similar arguments have recently been advanced by authors analysing consumption in ‘the new consumer society’ (Sulkunen, Holmwood, Radner & Schulze, 1997). Schulze (1997) maintains that modern societies have entered a new paradigm of thinking. It is a diametrical turn of perspective: from outside to inside. He puts forward two concepts – ‘influencing’ and ‘selecting’ (p. 42) – that corresponds with this outside-inside dualism (or situation and subject as he also calls it). In situations of scarcity and constraint, people try to influence their ‘objective’ living conditions or circumstances. The fundamental question is ‘what can I do, if anything?’ In situations of affluence and improved living conditions, on the other hand, the primary question becomes ‘what do I want?’

Schulze argues that to the extent the focus move from outside conditions to the person, the good life is defined according to experiences. In this experience society, having diverse objects is not an end but a means. He coins yet another concept – ‘rationality of experience’ (p. 48). This signifies that the goal of consumption has become the subject him/her self. The goal is to achieve the best possible internal effect. ‘We choose, taste, exchange, throw away, affiliate, leave each other, travel here and there, eat this, drink that – always trying to improve the relation between situational input and subjective output’ (p. 48).

Sulkunen (1997a) describes this new consumer society in a similar way. Individual happiness and pleasure are elevated as central values. The instance of judgment of what is good, fun or interesting has mainly become the individual him/her self. This implies more value pluralism and different life-styles. Not only have people by themselves to manage many of the risks that confront them. They also become the architects of their own preferred way of life. In this respect Sulkunen (1997b) speaks of people as constructing their identities as sovereign decision makers of their own pleasure and satisfaction.

27 Or the techno-economical realm as he also calls it, referring to the organization of production and the allocation of goods and services.
Pleasure and illicit drug use

Of course, this does not necessarily mean that pleasure is a central motive behind illicit drug use. Compared to products such as music and clothes, the legal status of illicit drugs renders them a specific position.

However, empirical research, mostly British, strongly suggest that the pleasure theme plays a significant motivational role for illicit drug use. Particularly, it does so in recreational contexts. This research shows that common reasons for taking illegal drugs are for pleasure, to have fun/feel excited/happy (Williams & Parker, 2001) to keep going, enhance other activities and to feel better (Boys, Marsden & Strang, 2001). Queipo, Alvarez and Velasco (1988) report that among Spanish university students, search for pleasure and happiness are common reasons mentioned for using illegal drugs. Another study reports that among university drug users in Britain, the overwhelming reason given for taking illegal drugs (and alcohol) is for pleasure (Webb, Ashton, Kelly & Kamali, 1996). In a study by Parker and Eggington (2002), young people were asked to value their experiences of illicit drug use during the last three years. The vast majority (seven in ten) rated their overall use as positive (very good or good). The authors concluded that the young users in their sample ‘try and then use psycho-active substances because they, on balance, find the experiences enjoyable, relaxing, stimulating, mind altering, confidence building and so on’ (p. 424).

Hence, some researchers have argued that the consumption of illicit drugs often follow a similar logic as the one operating in the consumer culture at large (Brain, 2000; Collison, 1996; Mayock, 2004; Parker, Aldridge & Measham, 1998; van Ree, 2002). Taking a strong position, van Ree (2002) argues that illicit drugs are typical products of the new consumer society. In his view, illicit drugs express the desire for pure pleasure. It is absolutely ‘wasteful’. It is consumer goods without any nutritious value whatsoever. Contrary to the use of coffee, alcohol or tobacco, illicit drugs are primarily used for their psychotropic effects, and not for the sake of smell or taste.

It is evident that the use of illicit drugs, like most products that are consumed, can have many aims. It can for instance be symbolic (say something about the user’s lifestyle), be instrumental towards other purposes (improving something else, such as dancing). But it can also be a goal in itself (having fun) or a combination of different purposes. Measham’s (2002) findings from interviews with young female drug users in the going-out-sector illustrate this clearly. These women discussed their motives for taking drugs when going out in terms of increasing energy, willingness to socialize and for becoming more proficient dancers. For these women, substances were used as a vehicle for improving their skills in the nightlife. These skills, in turn, resulted in a sort of symbolic manifestation of who the women wanted to be. By becoming more self-confident and sociable, they strengthened their ‘club babe persona’ as confident dancers and ‘party people’ (p. 355).
In line with this, this type of research view illicit drug use as an activity that for most people takes place during leisure time. It often functions as a time out from the requirements in life, e.g. work or school. In his interviews with young British drinkers, Brain (2000) concludes that many are practicing ‘bounded hedonistic consumption’. They mark out pleasure spaces where they can let loose and engage in less restricted behaviour than they do in work, school and family life. Measham (2004) takes a similar stand when she talks of a physical, social and head space that people mark out to facilitate a controlled loss of control in leisure time by means of e.g. consumption of legal and illegal drugs.

The implication of these and similar findings regarding how to conceptualize illicit drug use at present are discussed by Parker (2003) in a recent editorial with the thought-provoking title ‘Pathology or Modernity? Re-thinking risk factor analyses of young drug users’. According to Parker, there is a need to situate risk-protective factor analyses in a Risk society/consumption context. He acknowledges that the risk factor paradigm still is very suitable for understanding problematic drug use or abuse. But when it comes to those who use on a recreational basis, the understandings may have to be revised. He maintains that a significant proportion of these do not produce high scores on traditional ‘deficit’ measures (e.g. psychiatric problems). Among these, the consumption of illicit drugs and alcohol are largely contained by weekends. For Parker, this implies that ‘rational consumption theory is more convincing than “vulnerability” to substance misuse’ (p. 143).

Parker has played a central role in a debate that has taking place in drug research during the last decade or so, revolving around the so-called ‘normalization thesis’ of adolescent illicit substance use. This thesis, launched by Parker and his colleges, portrays adolescent illicit drug use very different from how this use has been conceptualized traditionally in drug research and drug prevention. The empirical basis for this thesis derives from a longitudinal panel study, the so-called North West Longitudinal Study, conducted by Parker and associates into the drug habits and related issues among a cohort of young Britons (see e.g. Parker, Aldridge & Measham, 1998; Parker, Williams & Aldridge, 2002). Based on the findings obtained in this study – including both quantitative and qualitative methods – Parker and associates contend that illicit drug use largely has been normalized among UK youths. This alleged normalization does not only refer to higher consumption levels. It also refers to issues concerning for example increased availability/access of illicit drugs and increased tolerance of recreational illicit drug use among abstainers. Parker et al further contend that there are signs that suggest that illicit drugs have been more accommodated in cultural understandings of normality. This is evident for example in certain youth magazines. Thus, Parker and associates are not only interested in illicit drug use in a traditional, narrow sense. They are interested in broader
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societal and cultural changes as well. Seen in this way, normalization is a ‘ba-
rometer of changes in social behaviour and cultural perspectives’ (Parker,
Williams & Aldridge, 2002, p. 943). It thus expands traditional epidemiologi-
cal perspectives by including an examination of cultural change and the
shifting symbolic value of illicit drug use (see Duff, 2005).

The normalization thesis has not stood unchallenged, however (e.g. Pape &
Rossow, 2004; Shiner & Newburn, 1997). For example, critics have
pointed out that too much weight is given to life-time prevalence figures.
That a high proportion of young Britons have used an illicit substance during
their life-time is allegedly not enough proof that this use has been normalized.

Unfortunately – as noted regarding the UK debate (Wibberley & Price,
2000) – it appears as if both advocates and critics of the normalization
thesis over-simplify matters. This indicates that the ‘truth’ might be in the
middle. It should be noted also that the normalization thesis mainly is
developed with reference to the UK which has substantially higher drug-
trying rates than Sweden.

Despite this, Parker and associates provide useful tools for conceptual-
izing the motives behind illicit drug use among adolescents at current. Spe-
cifically, this research lends support for focusing on the perceived positive
sides of illicit and other drug use in designing interventions for contempo-
rary youths. As Paglia and Room (1999) point out:

If we view prevention as something to be sold to youth, those selling
it often fail to understand the market. One great failing is a lack of
recognition of the “fun” side of drug use…Theoretical frames for
youth prevention need to be recast to recognize that youthful drug
use is not necessarily part of a negative downward spiral, that from
the point of view of the user drug use usually has a positive valua-
tion… (p. 38)

To the extent these accounts are correct, the traditional deficit model should
be complemented with this alternative model. Reasons for using may also
relate to e.g. having fun and feeling pleasure. As regards the assumptions
described in chapter 2, this means that users are not necessary unaware of
the risks or incapable of resisting peer pressure.

This is not to deny that for example peers may influence young people’s
choices. It is merely to suggest that it would be unwise to neglect young
people’s own intentions to use drugs. As Coggans and McKellar (1994)
point out: ‘blanket approaches to drug education based on notions of in-
adequacy will be doomed to failure, because for the majority of those who
experience drug education and go on to experiment with drugs their moti-
vation will have nothing to do with inability to resist peer pressure or with
psychological pathologies’ (p. 23). By the same token, Cook and Bellis
(2001) have shown that individuals with a good understanding of the ‘pre-
cise’ risks often are risk-takers. Other notable research shows that many
young smokers smoke despite being aware of the associated health risks (Banwell & Young, 1993; Denscombe, 2001).

**Closing the chapter and prospects for the empirical study**

A central argument of this chapter is that the pleasure theme is very important for drug prevention to consider. This argument is both theoretically and empirically based. As shown earlier, social theorists maintain that pleasure (broadly defined) is pivotal in contexts of consumption and leisure time. People’s spare time is to a considerable extent devoted to pursuits of experiencing, having fun and seeking new adventures. Empirical studies support the validity of pleasure as a motive for illicit and other drug use as well. Apparently, many youths use illicit drugs because they find it funny, pleasurable or because the substances serve perceived functional purposes.

If pleasure has played a minor role in the drug prevention area, risk, on the other, has received an enormous attention. Influenced by e.g. Beck’s (1992) *Risk Society*, here risk has been understood as a central cultural construct. Beck’s tenets are not developed with reference to youths but have been used in research exploring the developmental conditions of contemporary youths (see e.g. Cieslik & Pollock, 2002). As to the topic under study here, Beck and others’ accounts are crucial vantage points from which to look at the fundamental assumption behind risk information dissemination. Most likely, the central role risk play in society has repercussions for the drug prevention field. It cannot isolate itself from broader societal trends. On the one hand, these efforts assume that unawareness of risks is a key-variable to address. On the other, this work suggests that the magnitude of this unawareness might not be particularly large.

Yet, years of exposure to information does not necessarily mean that the individual believe that illicit drug use is very risky. Research shows that informal information about illicit drugs play an important role for many youths (Parker & Eggington, 2002). Indeed, this information may not accord with what is taught in the class-room. The experiences for the individual user may present another picture as well. To know how young people actually perceive risks, empirical studies are warranted. Evidence is particularly needed regarding how young people view their own risk. Evidence that young people are aware of risks may be indicative but cannot demonstrate whether the risks are perceived as personally relevant (Rothman & Kiviniemi, 1999). For that, measures of personal risk are required. The use of such measures has not been so common in studies examining young people’s beliefs about illicit drugs. This is an important omission. Research
shows that people consistently rate their own risk as lower than the risk for people in general (e.g. Weinstein, 1989).

In the empirical study, I draw upon a sample of older adolescents to explore how negative and positive sides of illicit drugs are viewed. Measures address the personal level in cases where applicable. The study is designed in a manner that allows for an examination not only of how large the risks are perceived as. How old and well known the risks are deemed to be are examples of other aspects addressed. In addition, while the importance of the pleasure theme was highlighted with references to studies among users, the study takes a broad grip to explore non-users’ views about positive sides too. The next chapter discusses empirical considerations based on prior findings in these specific research areas. Other methodological issues such as study sample and data collection are discussed as well.
CHAPTER 4

Method

From this chapter onwards I turn to the empirical study. This chapter describes methodological considerations regarding study population, construction of questionnaire, analytical strategy and so forth. First, however, the most central conclusions that can be drawn from prior research into risk perceptions and positive expectancies/benefit perceptions are outlined. These conclusions inform the choice of variables included in the empirical analyses.

Empirical considerations
– conclusions from prior studies

Risk perceptions

A substantial bulk of research has examined people’s perceptions of, reactions to and concern about risks. Though the study’s focus is perceptions of illicit drugs, some consistent findings concerning risk perceptions in general should be mentioned.

Risk perceptions surveys often include questions of how different risks are perceived. The same survey may ask how risky illicit drugs are perceived as, how risky unsafe sex is perceived as, how risky smoking is perceived as and so forth. However, a consistent gender pattern has been identified across a variety of risks (Boholm, 1998; Gustafsson, 1998). Men tend to hold ‘lower’ risk perceptions than women. This pattern also seems to exist for young people (e.g. Gullone & Moore, 2000; Gullone, Moore, Moss & Boyd, 2000; Millstein & Halpern-Felsher, 2002). For instance, Finucane, Slovic, Mertz, Flynn and Satterfield (2000) examined risk perception of 13 health risks (including a couple of illicit drugs) and found that for all of them, the percentage of high-risk responses were greater for girls than for boys. Smith and Rosenthal (1995) examined adolescents’ risk perception of 10 risky activities, including taking amphetamine, smoking marijuana, and drinking alcohol. When it came to the included substance use activities, the authors found that the girls reported significantly larger perceived risk than
the boys. This pattern was at hand both for perceived risk to oneself and perceived risk for other people.

Further, prior research has shown that perceptions of risk vary by participation in the actual risk behaviour. Those who participate in a given activity tend to perceive it as less risky than those who do not. For example, Benthin, Slovic and Severson (1993) examined risk perceptions of 30 activities (including both legal and illegal substance use) based on a small-scale sample of high-school students. Substantial differences were identified between participants and non-participants. Participants reported e.g. more knowledge of the risks, less fear, and greater perceived controllability of the risks. Virgili, Owen and Severson (1991) documented similar findings in a study of risk perception of cigarette smoking among a sample of high-school students. The authors found that current smokers differed from experimenters, ex-smokers and those who had never smoked. Current smokers perceived less personal risk, less severe health consequences and larger controllability of the risks than the other groups. Similar results have been demonstrated by Hampson, Severson, Burns, Slovic and Fischer (2001). They studied risk perception of alcohol use among a sample of high-school students and found that higher participation in drinking was associated with lower perceived risk to oneself. Studies have also shown that non-users of marijuana rate negative consequences of marijuana use as more likely to occur than other groups (Como-Lesko, Primavera & Szeszko, 1994) and that higher level of marijuana use is related with lower risk perception (Hemmelstein, 1995).

These findings highlight a link between risk perceptions and use. However, other research (some referred above) has shown that people’s concern about risk cannot solely be assessed by asking them to rate the likelihood (or risk) of a given outcome such as illegal drug use. Thus, some surveys have also included questions covering so-called qualitative risk characteristics (Marris, Langford & O’Riordan, 1998). That is, dimensions hypothesized to constitute people’s outlook about risk. Much of this work has been inspired by early studies conducted by Paul Slovic and colleagues (see e.g. Fischoff, Slovic, Lichtenstein, Read & Combs, 1978). Their research has shown, among other things, that the degree to which a given activity is perceived as dreadful and novel influence people’s view about risk. A high degree of perceived novelty and dread has been shown to be associated with higher risk perceptions. However, prior research has treated these qualitative

28 Mentionable is that the respondents perceived hard drugs such as crack and cocaine as most frightening of all included activities.

29 The label ‘qualitative risk characteristics’ appears somewhat problematic as it assigns these qualities to the risks as such rather than to peoples attitudes toward them. Nevertheless, I chose to use it here as I have not been able to come up with any better alternative.
risk characteristics (QRCs) different. Some studies have treated them as outcome variables, i.e. as different dimensions of risk perceptions. Others have included them as predictors for a common risk perception variable in regression models. Whether the case, most researchers including qualitative risk characteristics in their studies would argue that they in some way are associated with concern about risk. In so being, they are of interest for the present study.

Positive expectancies and benefit perceptions

Starting off with Brown and colleagues’ construction of the alcohol expectancy questionnaire (AEQ) in 1980, a substantial body of research has examined the relation between alcohol expectancies and alcohol use (for a review see Jones, Corbin & Fromme, 2001). Within expectancy theory – the theory framing these studies – behaviour is explained by people having expectations of particular effects of performing the behaviour in question. Thus, the consumption of alcohol is explained by individuals having alcohol outcome expectancies. Whether the outcome expectancies are valid is less important. To influence behaviour, they just need to be held. Positive expectations represent an important part of the motivation to drink, while negative expectations represent an important part of the motivation to restrain (Jones, Corbin & Fromme, 2001). As will be further discussed in the end of this chapter, there are reasons to think that these expectations are influenced by drinking as well. This indicates the potential of a more ‘dynamic’ relationship.

Most alcohol expectancies studies have focused on positive expectations. This is understandable as the AEQ originally were designed only for positive expectancies. Numerous studies have also shown a positive association between consumption and positive expectancies (e.g. Brown, Cristiansen & Goldman, 1987; Gustafson, 1993; Lee, Greely & Oei, 1999), although the reverse pattern have been identified (e.g. Critchlow Leigh, 1987).

Though much research has been done on alcohol expectancies, few studies have examined positive expectancies of illicit drugs. Similar to the case with alcohol, these have shown that users of ecstasy hold higher positive expectations than non-users (Engels & ter Bogt, 2004) and that positive expectations of risky behaviours in general (such as illicit drug use) is associated with involvement in these behaviours (Fromme, Katz & Rivet, 1997). While the research on expectancies for drugs other than alcohol still is in its infancy, the few existing studies suggest that expectancies of these are as important to consider (Aarons, Brown, Stice & Coe, 2001; Willner, 2001).

Some researchers ‘outside’ the expectancy theory framework have examined people’s positive expectations of substance use, but then instead referred to these as benefit perceptions. These studies have showed that
higher involvement in risky behaviours is positively related with benefit perceptions of these behaviours (Ben-Zur & Reshef-Kfir, 2003) that level of drinking is positively associated with perceived benefits (Hampson, Severson, Burns, Slovic & Fischer, 2001; Goldberg, Halpern-Felscher, & Millstein, 2002) and that smokers hold higher benefit perceptions than those who have never smoked (Halpern-Felsher et al, 2004). Using word association methodology, Benthin, Slovic, Moran, Severson, Merz and Gerrard (1995) found that participants in health-threatening (e.g. using marijuana) activities were much more likely than non-participants to associate the activities with positive outcomes and positive concepts.

**Implications for current study**

This brief review has highlighted crucial findings taken into account when preparing the current study. One thing that should be clear is that young people's beliefs about positive and negative sides of substance use do not constitute a 'new' study object. However, especially expectancy research has to a large extent been limited to alcohol. This suggests that further studies focusing on illicit drugs are warranted. In addition, the work measuring risk perceptions of illicit drugs by means of qualitative risk characteristics questions is even scarcer. This strongly suggests the need for more work in this area. Moreover, prior research has almost exclusively been conducted in the US. As substance use varies across time and space, beliefs about such substances are probably to some extent culturally mediated (Leeming, Hanley & Lyttle, 2002). Thus, although US data might be of value in informing prevention work in Sweden, there is a need to collect more local data (cf. Leeming, Hanley & Lyttle, 2002). Very few such studies have been conducted among Swedish youth. This is particularly the case when it comes to illicit drug use. The Swedish Council for Information about Alcohol and Drugs (CAN) include risk perception questions regarding illicit substances in their school surveys, but the responses to these are only presented descriptively. A more explanatory Swedish study should therefore be of need. The choice of approaching the personal level (see more below) should be an important contribution regarding preventive work in Sweden. Prior Swedish studies have merely addressed the general level. This also holds true when legal substances have been addressed (Lundborg & Lindgren, 2002; Lundborg & Lindgren, 2004).

To get a broad picture, the questionnaire used is designed in order to capture aspects usually dealt with by research focusing on risk/benefit perceptions and research focusing on expectancies. In constructing it in such a way, an attempt was made to bridge two research areas usually separated, yet which are similar. For example, a risk is usually defined as the
likelihood or probability that a negative event will occur (Drottz-Sjöberg, 1991). As expectancies researchers often ask people to rate the likelihood that diverse events will occur, in the case of negative events what is measured is akin to what risk perception researchers measure. These similarities are often at hand when it comes to the positive side of use as well. Benefit perceptions are often measured by likelihood questions, i.e. ‘how likely do you think it is that X will lead to benefits’?

**Construction of questionnaire**

This section describes how the questionnaire was designed. As it has not been possible to use a validated instrument, it becomes pertinent to go into detail. Specific attention is paid to the questions related to risk and benefit perceptions and positive and negative expectancies. As the process of developing questions covering negative and positive sides has been marred with diverse considerations, each one is described in a separate section.

**Questions covering risk perceptions and negative expectancies of illicit drug use**

Illicit drug use generates risk for different types of negative consequences. Examples include social-, physical- and psychological consequences. Each one of these can in turn be broken down in a number of subcategories. For instance, family problems and problems with friends can be seen as subcategories to the broader category social consequences. Clearly, the number of potential consequences of illicit drug use exceeds the measurement capacity of any questionnaire (Johnston, 2000b).

With this restriction in mind, a number of negative consequences were selected to cover a broad spectrum of different categories of consequences. In all, 14 different negative consequences were included. These cover social, physical, economical and juridical domains (see question 42 in appendix). Due to the focus on a normal population (see below) it was determined that the questions should only cover general consequences. The design thus differed from e.g. Como-Lesko, Primavera and Szaszko’s (1994) study of perceptions of the consequences of marijuana use, where some very specified items were included (e.g. the perception of the likelihood that marijuana use will damage the body’s chromosomes).

All items except 42m – which was designed by the author – were adopted from prior studies focusing negative consequences reported by illicit drug users (Morrison & Plant, 1990; Parker & Eggington, 2002; Parker, Measham & Aldridge, 1998); from studies examining people’s perceptions of the likelihood that negative consequences of alcohol (Hibell et
al, 2000) or illicit drug use (marijuana) (Como-Lesko, Primavera & Szaszko, 1994) will occur; and from WHO’s (Johnston, 2000b) guidelines of how negative consequences of illicit drug use should be measured. This section only addressed consequences from illicit drug use in general. No distinctions were made between different illicit substances. The considerations behind this choice are described further below.

However, one section in the questionnaire includes substance specific risk questions. Here the respondents are told to rate the risk of three different substances: cannabis, heroin and ecstasy. Cannabis was chosen as it is usually thought of as the lightest substance, heroin as being the hardest and ecstasy as being a typical party drug. Moreover, the respondents were told to rate the risk associated with each of these substances according to frequency of use. A similar design has been applied earlier and has informed the phrasing of the questions (see e.g. Hibell et al, 2000; Johnston, O’Malley & Bachman, 2002). A difference is that the original questions addressed the general level, i.e. the risk for people in general. Here, they address the personal level (see more below regarding importance of choosing general vs. personal level). These questions are limited to one general outcome (‘how great risk of harming yourself [physically or in another way]…’). This implies that it is not possible to know whether specific risks are associated with one substance but not with another. Thus, it is possible that a given individual who state that both regular ecstasy and heroin use pose a very great risk, may think that there are different risks involved for respectively substance.

As mentioned earlier, research has identified a number of qualitative risk characteristics (QRCs) that affect people’s concern about risks. As pointed out by Sjöberg (1991), all these are not equally relevant for all risks. There are for example obvious differences between risks associated with nuclear power and risks associated with illicit drugs. The former poses a risk for many people simultaneously (catastrophic potential). Would an accident occur, many people would suffer from it involuntary. To be at risk from illicit drug use, on the other hand, largely presupposes that the individual chooses to use. The user is to a considerable degree exposed to the risks voluntary.

Thus, the questionnaire only includes QRCs (questions 31-40) deemed relevant for illicit drugs. Some of these were adapted from studies examining risk perceptions across many hazards (Fischhoff, Slovic, Lichtenstein, Read & Combs, 1978; Slovic, 1987). Others were adapted from studies on youths’ risk perceptions covering substance use (Benthin, Slovic, Moran & Severson, 1993; Smith & Rosenthal, 1995; Virgili, Owen & Severson, 1991).

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30 The distinction between voluntary and involuntary activities is not unproblematic, however. It would be very difficult to make ‘objective’ distinctions between these two (see Barnett & Breakwell, 2001). For example, individuals addicted to illicit drugs could maintain that they do not consume voluntary, i.e. that their addiction ‘forces’ them to use illicit drugs.
Two questions related to trust were included (questions 37 and 38), as trust recently has been pointed out as an important dimension of people’s concern about risk (e.g. Frewer & Miles, 2003). These two concerned trust in risk information delivered in school and in ‘risk-research’ reports presented in the media.

A main difference from the items pertaining to negative expectancies is that the QRC questions are not as detailed. The reason for this was that equally detailed items concerning the QRC:s would take too much space in demand. It would imply that each QRC should be linked with each consequence, totalling 140 different questions (14 consequences * 10 QRC:s).

As noted in chapter 3, an important distinction goes between personal risk and general risk (Drottz-Sjöberg, 1991; Sjöberg, 1991). That is, whether the risk refers to one personally or to people in general. An ‘optimistic bias’ (Weinstein, 1989) has consistently been documented when it comes to personal risk. This is also the case with regard to substance use (e.g. Cohn, Macfarlane, Yanez & Imai, 1995; Sjöberg, 1998). In a Swedish study, for example, it was found that alcohol simultaneously was perceived as one of the greatest general risks and as one of the smallest personal risks (Sjöberg, 1998). From this follows that it becomes crucial to specify the target of the risk perception questions. This is also due to the fact that people tend to assume the general version when the questions do not precise whom the risk is linked to (Sjöberg, 1994).

This distinction was taken into account when designing the questionnaire. The choice fell on the respondents’ personal risk. This was deemed to be more crucial from a drug preventive perspective. However, this choice brought about a consequence imperative to deal with. Given the study population (see more below), it was assumed that the sample most certainly would include both illicit drug experienced and illicit drug inexperienced individuals. The questions needed therefore to be ‘situation-specific’ or ‘conditional’ (cf. Millstein & Halpern-Felscher, 2002, p. 12). That is, the respondents were asked to state their personal risk if they were to engage in illicit drug use. While this might seem like the only reasonable design in this case, unconditional questions have been used in some prior studies. For example, they have asked both smokers and non-smokers to rate their risk of developing lung cancer without specifying an antecedent behaviour, i.e. smoking. In these cases, smokers have rated their risk as higher, which almost seems given per definition (see Halpern-Felsher, Biehl, Kropp, & Rubinstein, 2004 for a critique of these studies). The questions pertaining to negative consequences addressed the personal level as well.

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31 The media was chosen because this is the place were non-professionals get most of their information about research results (Drott-Sjöberg, 1991).
Questions covering benefit perceptions and positive expectancies of illicit drug use

In the same way as with the questions addressing negative expectancies, the questions pertaining to positive expectancies were designed in order to capture a broad spectrum of consequences. Although being so, no claims were made that all potential positive consequences would be included. This restriction is shared with the questions regarding negative consequences. The design of these questions also reflected those dealing with the negative sides in the sense that they explicitly instructed the respondents to rate the likelihood that the consequences would occur for them personally. They further reflected the former in being 'situation-specific' or 'conditional'.

In all, 19 different items were included (see question 45 in appendix). The questions 45a, 45n, 45o and 45q were designed by the author himself. The other items were derived from prior studies. 45b-45i and 45p were adopted from studies examining positive consequences from alcohol, as reported by drinkers (Hauge & Irgens-Jensen, 1990; Mäkelä & Mustonen, 1988; Mäkelä & Mustonen, 2000). Of course, the formulation in the original questions needed to be slightly revised. They addressed actually reported consequences and not perceived likelihood. A similar procedure were carried through for items 45j-45l and 45r-45s. These were adopted from studies examining positive consequences and functions of illicit drug use, as reported by young drug users (Boys, Marsden, Griffiths, Fountain, Stillwell & Strang, 1999; Boys, Marsden & Strang, 2001; Parker, Aldridge & Measham, 1998). Lastly, 45m were adopted from Brown, Christiansen and Goldman's (1987) study of alcohol expectancies.

A significant difference between research into positive expectancies/benefits and research into risk is that the former does not have any equivalent to qualitative risk characteristics. Thus, the section addressing beliefs about positive sides do not capture as many facets as the other section. However, in addition to the questions mentioned above the questionnaire includes a question that explicitly address the perceived personal benefits of illicit drugs (question. 43). Moreover, this section includes a question where the respondents are asked to weigh the benefits and risk against each other, i.e. whether the risks outweigh the benefits or vice versa (adopted from Benthin, Slovic & Severson, 1993).

Questions covering consumption of illicit drugs, background variables etc.

Alcohol consumption was measured by three questions adopted from the study ‘Men and women in Swedish drug abuse treatment’ (Storbjörk & Palm, 2003). Besides covering how often alcohol was consumed during the
last 12 months, frequency of binge-drinking (5 drinks or more during a day) and heavy binge-drinking (12 or more drinks during a day) the last 12 months was addressed. One question addressed how often the respondents have felt drunk during the same time frame. However, only the 5-drinks measure was used in the analyses. This is the most common measure of binge-drinking in surveys.

Use of illicit drugs was measured by six questions, five covering personal use. 25-27 are based on European Monitoring Centre for Drugs and Drug Addiction’s recommendations for constructing drug surveys (EMCDDA, 2002). Question 28 addressed lifetime use of different types of illicit substances; 30 use of these substances last 12 months; and 29 frequency of illicit drug use during the last 12 months. The latter were inspired by WHO’s guidelines for measuring drug use (Johnston, 2000b). However it was limited to illicit drug use in general, i.e. not substance specific.

Besides common background variables such as sex and country of birth, some attitudinal and life-style variables were included. Aspects addressed were for example orientation towards risk taking and pleasure seeking. These were, however, not included in the final analyses. No interpretable structure was found when the pool of items was analysed by means of factor analysis.

Also included were three questions about experience of drug education in school last 12 months (alcohol, illicit drugs and tobacco). These questions were adopted from a recent Swedish study (Lundborg, 2003). However, its reference period was set to last 6 months. Six months was considered to narrow, and lifetime experience to wide, as school-based drug education is an obligatory curriculum in Swedish compulsory school. In the final analyses, only presence or absence of drug education last 12 months was included as a variable.

Pre-test of questionnaire

The questionnaire was pre-tested among two classes of students at the department of Social Work at Stockholm University during the autumn 2003 (17/9 and 23/9). The number of respondents was 45. Besides being requested to respond to the questions, the respondents were told to give comments about the design of the questions, would they have any. They were also told that the target group of the study would be individuals younger than themselves. All comments were subsequently taken into account by the author. Some led to slight changes in phrasing of the questions.
Chapter 4

Other considerations

Advantages and disadvantages of using the generic term ‘illicit drugs’ when measuring perceptions and expectancies in a Swedish context

The largest consideration during the construction of the questionnaire was whether substance specific questions should be applied or if the generic term illicit drugs would suffice. One yardstick that was applied to determine this choice was the constitution of the study population. The importance of tailoring the design of the questions to the study population is emphasized in guidelines for constructing drug surveys (e.g. Johnston, 2000b). Crucial aspects include e.g. the capabilities and degree of motivation of the study population. Although questions pertaining to perceptions and expectancies do not address actual knowledge, the questions must make sense to those responding to them.

In an early stage it was determined that the focus should be on a normal population. It should not specifically be addicts or experimental users. Due to this choice, it was expected that the vast majority would not have a clear view about specific effects attributable to different substances (e.g. that ecstasy might make the body’s cooling system fail)\(^3\). It was deemed less meaningful to ask this majority to e.g. rate the likelihood of health problems due to use of specific substances.

This expectation was supported by the fact that illicit drug use is not such a widespread phenomenon in Sweden as it is in many other European countries. One can hardly say that it has been ‘normalized’ to the extent that

\(^{32}\) A few prior studies show a positive association between illicit drugs involvement and this type of illicit drugs knowledge (Brook, Feigin, Sherer & Geva, 2001; Lenton, Boys & Norcross, 1997). Moreover, prior research has shown that greater use of a given drug (both legal and illegal) is associated with more differentiated beliefs about that drug (see Fabricius, Nagoshi & MacKinnon, 1993 for a review). Fabricius, Nagoshi and MacKinnon’s own study showed that higher drug involvement is not only associated with differentiated beliefs about drugs used, but also for drugs that were not tried. Thus, marijuana users, for instance, made more differentiated beliefs about the harmfulness of cocaine than did alcohol users (with no illicit drug experience). This is an interesting finding indeed and would merit a thorough explanation. A hint in this direction is offered by Stacy and colleagues (1996): ‘individuals who use one drug…are probably likely to be exposed to people who use other illegal drugs. Such exposure can readily occur through peer group affiliation, parties, or other social activities where drug use may occur. This exposure may be manifested through either direct observations of others’ drug use or through engagement in conversations about drug use’ (p. 25) Regarding the current study, these studies ought to indicate that making sophisticated distinctions between different substances is better suited when the target group is exclusively illicit drug experienced people.
Method

has been said about especially the UK (see e.g. Parker, Aldridge & Measham, 1998). There are reasons to think that young people in the UK overall are more ‘drug wise’ than their Swedish counterparts. One out of two individuals aged 16-24 years in UK have used an illicit substance (Chivite-Matthews et al., 2005). Less than 1 in 5 in the same age span has done so in Sweden (Guttormsson, Andersson & Hibell, 2004).

An additional consideration was related to the length of the questionnaire. It was deemed important to include a range of consequences in the parts dealing with negative and positive expectancies. Prior risk perception research in particular has often neglected that a given activity can increase the risk for different outcomes. The importance of understanding the kinds of outcomes valued by adolescents has been stressed. For instance, health aspects may not rank equally high as social aspects (cf. Millstein & Halpern-Felsher, 2002). As a corollary of this, it was not feasible to more than marginally cut down the number of consequences included. And as this was the case, covering a range of consequences by different substances individually would take to much space in demand. A longer questionnaire would likely increase the risk of response bias (e.g. loss of concentration), especially among those less concerned about the topic.

As noted above, research has shown that those participating in risky behaviours tend to differ from those who do not in perceptions and expectancies. This distinction was deemed crucial to test in the present study too. But as there are reasons to assume that the former group hold more differentiated beliefs, a methodological predicament is to some extent at hand. In deciding whether substance specific or general questions should be used, one has to choose between two unsatisfactory choices. Both are associated with a considerable risk of question context bias (EMCDDA, 2002, p. 88-89).

Question context bias may arise when people do not have the necessary knowledge to answer a question. If people are instructed to rate the likelihood that cannabis use can damage the body’s chromosomes, but do not know what a chromosome is, their answers will certainly be biased. As illicit drug experienced individuals appear to have more knowledge about the topic, in this case the risk of question context bias is larger for the group of people with no such experience. Measures that presuppose more knowledge than what exists is thus a threat to validity (Swadi, 1990).

Conversely, when using the generic term the risk of question context bias is probably larger among the experienced. This particularly so when it comes to poly-users, i.e. users of several substances. Questions applying the generic term may appear too simplified among this group. They might have experienced certain effects from one substance, but not from another. Regarding this group, bias may increase as the questions assume less knowledge than what is actually at hand. Table 4:1 illustrates the predicament. This predicament comes in degrees though. The + and – signs in the first
column are probably more evident the more experience an individual has of illicit drug use (concerning both substances used and frequency of use).

Table 4.1: Schematic representation of expected advantages and disadvantages of using detailed vs. general perception/expectancy questions among illicit drug users and no-users. + signifies less risk of question context bias relative to the other group, - signifies more risk.

<table>
<thead>
<tr>
<th>Design of perception/expectancy questions</th>
<th>Illicit drug experienced</th>
<th>Not illicit drug experienced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>General</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

Yet, if using the general version the risk of question context bias among poly-users is not necessarily that large. This is suggested by a study exploring what reasons they give for using different substances (Boys, Marsden & Strang, 2001). Included substances were alcohol, cocaine, amphetamines, ecstasy, cocaine and LSD. Totally 17 different functions were addressed. All substances had been used to fulfill 15 of the functions, despite differences in the substances’ pharmacological effects (though certain drugs were more commonly associated with certain functions). No comparisons could be made for the remaining two functions across the substances – one was only asked for alcohol and cannabis and one for the other substances. In a similar vein, Newcomb, Chou, Bentler and Huba (1988) found a positive association between reasons for using cannabis and later involvement in hard drugs. They interpreted this finding as that reasons for using hard drugs may be similar to those for using cannabis. Still acknowledging the predicament, the problems with the general version was all in all considered acceptable.

The choice of using this version implied that only general consequences could be included in the sections dealing with expectancies. Examples of these were problems with family and friends, economical problems, psychological/emotional problems, having fun, get relaxed and forget problems. These were all deemed possible to attribute to several substances.

Despite this procedure it must be admitted that a significant validity problem remains. It is likely that some respondents do not think of illicit drugs as a general category when responding to the questions. Some might consciously or unconsciously replace it with a specific substance they are most familiar with. This must be taken into consideration when interpreting the findings. However, as mentioned previously, included were also some

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33 Here it is worth noting that studies also have shown that there are similarities in motives given across different risky behaviours more generally (Benthin, Slovic, Moran, Severson, Mertz & Gerrard, 1995).
substance specific risk questions. If strong correlations would be found between these, there is additional support for the general version.

Self-reported illicit drug use – a note on honesty

Among the questions included, the one measuring illicit drug use is most sensitive for bias. Owing to the legal status of this activity, the risk of problems with validity and reliability is greater than when measuring approved behaviours (Barnea, Rahav & Teichman, 1987). Especially the issue of understatement or denial has worried drug researchers. But the problem of over reporting has been discussed as well. It has been argued that particularly younger respondents exaggerate their use as a function of ‘light-hearted attitudes towards the survey’ (Barnea, Rahav & Teichman, 1987, p. 891). However, such claims are poorly supported by empirical investigation. The literature on reliability and validity is in fact encouraging (Bauman & Phongsavan, 1999; Bjarnason, 1995; Johnston, 2000a). Prospective studies show that reported illicit drug use is fairly consistent over time (Barnea, Rahav & Teichman 1987; Johnston & O’Malley, 1997; Pedersen, 1990). Of specific weight in this respect is the study by Johnston and O’Malley in which a representative American panel were tracked every second year for as long as 14 years (ages 18 through 32).

A method that researchers have used to grasp the extent of over reporting is to include a dummy drug in the questionnaires, i.e. a fictitious drug. Many studies that have used this methodology have documented low positive responses (see Bauman & Phongsavan, 1999). A notable example is the extensive ESPAD-study (Hibell et al, 2000) – a study conducted in 30 European countries. In this study, the dummy drug ‘revelin’ was included amongst a variety of real substances. The findings revealed that very few individuals reported having used this fictive substance. The average figure was 0.3 percent. The inclusion of dummy drugs such as ‘quadranol’ (see Bauman & Phongsavan, 1999) and ‘jojoba’ (Barnea et al, 1987) in surveys has produced low positive responses too.

Except for these procedures, researchers have attempted to examine external validity, i.e. comparisons between self-reported use and other sources assumed to be more accurate. Examples of these include official records, blood-, urine- and saliva tests, and, more recently, hair testing. Though some commentators conclude that these comparisons give credibility to self-reports (Barnea et al, 1987; Bjarnason, 1995) it must be stressed that most studies have been conducted among criminal justice and treatment populations (Harrison & Hughes, 1997). Cautiousness is consequently required when making inferences to the general population. Given this limitation, a couple of conclusions repeatedly drawn should be mentioned here. First, the risk of biased answers is highest when it comes to heavier substances
such as cocaine and heroin. Second, the risk of response bias is higher for recent use than for lifetime use. Third, the risk of underreporting is lower when data is collected by self-administered questionnaires than with face-to-face interviews (Harrison, 1997).

A fourth honesty check has also been used in prior research; this one is usually referred to as construct validity. Contrary to the measures of external validity, this check is easy to make in studies among the general population. When testing construct validity researchers have examined the extent to which self-reported use is associated with predicted indicators of illicit drug use. An example of this has been tests of correlations among problem behaviours – a test that can be related to Jessor's problem behaviour theory. This (among other things) posits that these types of behaviours cluster within an overall problem behaviour syndrome (see e.g. Jessor, 1987).

Although this procedure many times has supported the validity of self-reports (see Barnea et al, 1987; Harrison, 1997), a note of cautiousness is needed. For example, if failing to support Jessor's theory, two opposite conclusions might be drawn. The first is that the construct validity is low. The second is that Jessor's theory inaccurately account for illicit drug use behaviour at present. Here it should be kept in mind that the research field is diversified. One strand of research claims that current illicit drug use behaviours resemble old patterns and another strand suggests the opposite ('normalization'). To some extent, depending on what strand of research one is attached to, the question of construct validity might get different interpretations.

Leaving aside the latter issue, which is far too delicate to deal with here, there are indicators that the concern about the problems with validity and reliability in self-reported illicit drug use is exaggerated. At the same time it should be noted that the research is too scarce as to determine more precise the extent of misreporting.

**Choice of age of study group**

In an extensive review of the knowledge in the drug prevention field, Hawks, Scott and McBride (2000) identified three critical periods in young people's lives when interventions most likely will reach optimal effects (p. 40). The first period occurs far before young people are exposed to situations were drugs are available and is referred to as an inoculation phase. The purpose of preventive efforts addressing this phase is to affect responses in subsequent substance use situations. The next critical period – the early relevancy phase – occurs when most young people are exposed to drugs for the first time. In this phase it is important that they are provided information and skills with practical application. The last period is the later relevancy phase,
a period when prevalence of use increases and context of use changes. Examples of context change are when young people drink and drive or when they meet new people in pub and club settings.

Hawks and colleagues do not precise the ages when people attend the critical periods. This is highly understandable, given the type of text it is. It is a WHO publication, which is less occupied with specific countries. The meaning with making exact age distinctions between the critical periods could also be called into doubt. Rather, the periods identified are arguably best understood as rough approximations.

It was early determined that the group to study should be the one attending what Hawks et al call the later relevancy phase. Roughly, this would be individuals aged somewhere between the last years of adolescence and 25 or so. After that, usage of illicit drugs normally declines (e.g. Chen & Kandel, 1995).

After extensive considerations the choice of study group fell on youths attending last (third) year in upper secondary school. This choice is not the only reasonable but could be motivated by the following remarks.

The first aspect is related to the change of context criterion. In Sweden, people reach lawful age at 18, which usually is the age when people are permitted to attend pubs, clubs and bars (cf. exposed to new crowds). As the sampling began during the end of 2003, the vast majority of the respondents were assumed to have reached lawful age.

Second, from a practical drug preventive perspective there are particular reasons to track individuals attending last year in the lower education system. After graduation from upper secondary school, people are more difficult to reach with preventive efforts – certainly school-based drug education.

Third, to attend last year in upper secondary school is obviously to stand on the threshold to a new life phase either this phase involves work, higher studies, military service, travelling or the like. Likely, for most people this transgression involves a profound ‘context of change’ as regards life at large. Indeed, the years following the adolescent period are according to some developmental psychologists characterised by substantial changes. Arnett (e.g. 2000, 2004) argues that the ages between 18 and 25 have become a distinct developmental phase. This phase, called ‘emerging adulthood’, is amongst other things characterised by experimentation and exploration. This is evident in the fact that the prevalence of drug use peaks during this period (Arnett, 2004). Provided the latter point, individuals standing on the threshold to ‘emerging adulthood’ should be an important group for drug prevention34.

34 For Arnett, an important aspect of emerging adulthood is that individuals leave secondary school (2004). Thus, according to Arnett’s arguments, individuals attending third year in upper secondary school in Sweden stand on the threshold to a life phase that generally involves more drug use than any other period in life.
Chapter 4

The issue of sampling was to some extent taken into account when choosing age group. Evidently, the classroom is a beneficial setting when doing survey research among young people (Bjarnason, 1995). The school survey usually involves a substantially lower drop-out rate than mail- or telephone surveys. As it was deemed imperative to avoid a high dropout rate, only individuals attending upper secondary school were considered for inclusion. Considered was also whether first and second graders should be included. The first group, which mostly would consist of people aged 16 (born in 1987), was judged as to young. There was a risk that this age group would be more, or equally, involved in the early relevancy phase. It was assumed, but less so, that this risk would be at hand for those attending second grade as well. After thorough consideration, this group was omitted.

The choice of sampling individuals in the classroom implied that not only individuals born in 1985 would be included, i.e. individuals initially considered to young. The potential disadvantages with this choice were deemed acceptable. A question pertaining to birth year were included in the questionnaire. This made it feasible to examine the potential of age variations in outcome variables.

The choice of including only adolescents in this particular age implies that the results not can be extrapolated to younger adolescent populations. There may be noteworthy differences between for example young people aged 13 and 18 in how positive and negative sides of illicit drug use are viewed. Profound changes take place over the adolescent years. Examples include cognitive and psychosocial developments and changes in social environments (see e.g. Millstein & Halpern-Felsher, 2002). As Millstein and Halpern-Felsher (2002) have shown, such developments are likely to have an impact on how individuals view such topics as those studied here. Estimates of risk include the assessment of to what extent e.g. a given behaviour is causally related to a particular outcome. According to them, younger adolescents are less inclined to critically reflect about what they have been taught about such causal relationships (e.g. by teachers or parents). Among factors influencing such changes, personal observation is pivotal, e.g. observations of deviations from such relationships. Thus, it is possible that while older adolescents have received more risk information, they may be more apt to disregard such information as out of line with their personal observations or experiences. The potential impact of such factors must be taken into account in relation to the empirical study. This issue is further discussed in the final chapter.
Sample and fieldwork

2104 participants were recruited from 35 upper secondary schools (133 classes totally) in the great Stockholm area during the period November 2003 to January 2004. All participants attended third year, which meant that the vast majority (80 percent) were about 18 years old (born in 1985) at the time of data collection.

The sample was drawn in collaboration with a research company located in Stockholm, ARS-research, which also conducted the fieldwork. ARS-research is staffed with persons with extensive experience of conducting opinion polls, and has prior experience of conducting drug-surveys. As the group studied should be the normal population, the idea was that the sample should consist of individuals from different social classes, from deprived and wealthy areas, with different ethnic origin, from different study programmes etc. As the questionnaire was not posted to a random sample of individuals, the sampling procedure was facilitated by ARS-research's competence in cluster sampling.

Based on a cluster model over the municipalities in the greater Stockholm area, ARS-research selected upper secondary schools considered for the study. The cluster model is based on the municipalities' inhabitants' purchasing power, ownership of cars and living form. Upper secondary schools from all the clusters should be represented and both theoretical and practical programmes should be included.

In the initial stage, it was determined that about 2000 individuals should be included in the study. Moreover, it was also determined that about 90 students from each school (approximately 3-6 classes at each school) should be included, which would imply that 26 different schools would suffice in order to fulfill the response rate of 2000.

ARS-research contacted the headmaster at each school and asked for permission. Those schools that refused were replaced with another school in the same cluster and with the same study programme. However, after the fieldwork at the 26 schools was completed, only about 1600 questionnaires had been collected. Thus 9 more schools were selected based on the same sampling procedure.

The students filled in the questionnaire individually during class. They were instructed to carefully read the front page and to put the questionnaire in an envelope after it was filled in. They were also instructed to thereafter close the envelope and hand it over to the fieldwork assistant responsible for the collection of the questionnaires. The front page shortly informed about the aim of the research project and emphasized the importance of responding to the questions as correctly as possible. It also informed that the aim was not to measure actual knowledge about illicit drug related issues, but only to tap personal views. In order to secure anonymity, the front
page also instructed the respondents not to write their names anywhere. The time needed to fill in the questionnaires varied between approximately 15 and 30 minutes. The teacher in each class filled in a questionnaire with information regarding absent students. All in all it was possible to identify 734\textsuperscript{35} absent students, which means a 26 per cent drop-out rate of all considered for inclusion. It was possible to identify 144 students (about 20 percent) with valid reasons for their absence (sickness or else) and 104 students (about 14 percent) as having non-valid reasons for absence. Thus, it is not feasible to determine the reason for absence among the vast majority constituting the drop-out group.

The drop-out rate is to be considered low, compared to what is usually the case in mail-based surveys. Yet, it should not be neglected. Heavier illicit drug users tend to be underrepresented in this type of studies (e.g. Thompson, 1997). However, although this is a point to bear in mind, it should not be exaggerated. Firstly, while the teacher questionnaire included a ‘don’t know’ category, no category was chosen regarding a considerable proportion of absent students. This indicates that more students than identifiable had a valid reason for their absence. Secondly, it seems unlikely that the ‘heavy’ group is so large that it seriously would change the results obtained in the analyses if included.

**Description of sample**

Table 4:2 displays descriptive statistics for the sample. As the recruitment of participants was not based on random sampling, it becomes important to compare, when possible, the figures with reliable statistical records. The degree of correspondence with these sources suggests the extent to which the results can be generalized to the whole study population.

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\textsuperscript{35} Students who either refused to participate or who handed over blank questionnaires (totally 23 students or about 0.01 percent) were also treated as absent.
Table 4.2. Descriptive statistics of the sample (n= 2104). Absolute numbers and percent.

<table>
<thead>
<tr>
<th></th>
<th>Number of observations</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>1024</td>
<td>49</td>
</tr>
<tr>
<td>Men</td>
<td>1075</td>
<td>51</td>
</tr>
<tr>
<td>Country of birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>1845</td>
<td>89</td>
</tr>
<tr>
<td>Outside Sweden</td>
<td>239</td>
<td>11</td>
</tr>
<tr>
<td>Family structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>1368</td>
<td>66</td>
</tr>
<tr>
<td>Lives with one parent/one parent and new partner</td>
<td>581</td>
<td>28</td>
</tr>
<tr>
<td>Other (e.g. with siblings, alone)</td>
<td>121</td>
<td>6</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤17a</td>
<td>142</td>
<td>7</td>
</tr>
<tr>
<td>18b</td>
<td>1659</td>
<td>80</td>
</tr>
<tr>
<td>≥19c</td>
<td>268</td>
<td>13</td>
</tr>
<tr>
<td>Illicit drug use lifetime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>464</td>
<td>22</td>
</tr>
<tr>
<td>No</td>
<td>1635</td>
<td>78</td>
</tr>
<tr>
<td>Illicit drug use last 12 months among lifetime users</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 time</td>
<td>161</td>
<td>35</td>
</tr>
<tr>
<td>1-2 times</td>
<td>145</td>
<td>32</td>
</tr>
<tr>
<td>3-9 times</td>
<td>89</td>
<td>19</td>
</tr>
<tr>
<td>≥10 times</td>
<td>63</td>
<td>14</td>
</tr>
<tr>
<td>Substances used among lifetime users ever¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hash/marijuana (n=452)</td>
<td>440</td>
<td>97</td>
</tr>
<tr>
<td>Amphetamine (n=360)</td>
<td>47</td>
<td>13</td>
</tr>
<tr>
<td>Cocaine (n=358)</td>
<td>55</td>
<td>15</td>
</tr>
<tr>
<td>Heroin (n=346)</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Other opiates (n=347)</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Tranquillisers (without doctor’s permission) (n=367)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSD (n=344)</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Ecstasy (n=362)</td>
<td>71</td>
<td>20</td>
</tr>
<tr>
<td>Other (n=327)</td>
<td>48</td>
<td>15</td>
</tr>
</tbody>
</table>
Chapter 4

Table 4:2 continued.

<table>
<thead>
<tr>
<th>Alcohol use lifetime</th>
<th>2103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2003</td>
</tr>
<tr>
<td>No</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Binge-drinking last 12 months among lifetime drinkersa</td>
<td>1971</td>
</tr>
<tr>
<td>0 time</td>
<td>286</td>
</tr>
<tr>
<td>1-11 times</td>
<td>660</td>
</tr>
<tr>
<td>≥ once a month</td>
<td>1025</td>
</tr>
</tbody>
</table>

The percentage of females is representative for the country as a whole, given the age of the respondents. According to Statistics Sweden's (SCB, 2004, p. 32 table 1.2.4) population statistics for 2004, among those aged 18 years 53928 were females and 57117 were males. This means that 49 percent females and 51 percent males constitute this age group. The same percentage rates are also at hand for those aged 17 and 19 (49 percent females respectively). Table 4:2 also shows that 11 percent of the sample is born outside Sweden. This is representative for the country as a whole in the age group at hand. According to Statistics Sweden (SCB, 2004, p. 28-30 table 1.2.3), in 2004 12009 individuals aged 18 years were born abroad, whereas 99036 were born in Sweden. These numbers imply that 11 per cent of 18-year-olds were born abroad. Among people aged 17 years the percentage rate is 10 and among 19-year-olds it is 12 (according to my own calculations of the original numbers in Statistic Sweden's publication).

The proportion living with both parents is slightly higher than what is reported in national statistics. According to Statistics Sweden (SCB, 2003, p. 63 table 4.2 b), in 2003 60 percent of people aged 18 years were living with both their parents. Similar figures are at hand for those aged 17 (61 percent) years. However, among those aged 19, this percentage rate is lower (52 percent). Among this group, a larger proportion lives alone. This is not so surprising, as this is the age where the vast majority graduate from upper secondary school and thus enters a new life phase. Among those not living with both parents, the majority lives with one parent/one parent and his/her new partner. Reflecting statistics Sweden's figures, the vast mass of these lives with their mother/mother and new partner (not shown in table 4.2).

As can be seen, 80 percent of the respondents are born in 1985 (18-year-olds). This percentage rate is fairly representative for the country at large, as
shown in the National Agency for Education’s national report for the study year 2003/2004 (Skolverket, 2004, p. 152 table 6.3 D). According to this report, in the study year 2003/2004 96506 persons attended third year in upper secondary school. Among these 78164 were 18 years old (born in 1985) i.e. 81 percent in total. However, those aged 19 years or older are somewhat underrepresented in my study and those aged 17 years or younger somewhat overrepresented. According to the National Agency of Education, 17 percent (15932 persons) were 19 year or older, whereas 2 percent (2410) were 17 years or younger.

As to the prevalence of illicit drug use, the table shows that slightly more than 1 in 5 has ever tried an illicit substance. This can be compared with representative studies conducted during the same time and with roughly the same study population. According to a recent study conducted by the Swedish Council for Information about Alcohol and Drugs (CAN) among second graders in upper secondary schools (Rask, 2005), in 2004 17 percent of the boys and 14 percent of the girls had ever used an illicit drug\textsuperscript{36}. Compared to these estimates, the sample’s life-time prevalence appears somewhat large. However, the lifetime prevalence of illicit drug use among young people is highest in Sweden’s metropolitan areas, as shown in yet another drug survey conducted by CAN (Gutormsson, Andersson & Hibell, 2004, p. 41 table L). Although the regional comparisons was only made for people aged 16-24 as a single group, mentionable is that whereas almost 1 in 4 in the metropolitan areas were drug experienced, less than 1 in 10 in the sparsely populated areas were so. A report based on Stockholm town’s 2004 drug survey also shows that slightly less than 1 in 4 of second graders in upper secondary schools in Stockholm has ever used an illicit drug (El-Khoury & Sundell, 2005)\textsuperscript{37}. Considered that the sample is drawn from a metropolitan area, the lifetime prevalence of illicit drugs does not seem unusually high.

Table 4:2 also displays a measure of level of involvement last 12 months amongst lifetime users. The vast majority of these have had minor experience the last 12 months. Two out of three report that they have used between 0 and 2 times. Slightly less than 15 percent have had what can be called a high level of involvement. Unfortunately, available, national figures pertaining to use last 12 months does not show frequency of use but only the proportion of all included respondents that have used during this time frame. If we calculate the proportion with illicit drug experience last 12

\textsuperscript{36} As these figures were presented separately, and as the absolute numbers were omitted from this table, I am also forced to represent them divided by sex here. It can be noted that in the current sample 26 percent of the males and 18 percent of the females have experience of using illicit drugs.

\textsuperscript{37} This report, however, did only include schools located in Stockholm town, i.e. no schools from the municipalities surrounding Stockholm town was included.
months for the whole sample we get a rate of about 14 percent (not shown in table 4.2). Compared with CAN:s (Guttormsson, Andersson & Hibell, 2004) national representative study, this statistic is rather high. In their study, the group with the highest prevalence the last 12 months is those aged 21. In this group, 10 percent have used last 12 months. Among those aged 16-20, the proportion varies between 5 and 8 percent (p. 98 table 5). However, resembling lifetime prevalence, CAN:s estimates also showed that the prevalence last 12 months was highest in the metropolitan areas for the total group of 16-24-year-olds (no further age distinctions). Notwithstanding this regional variation, the proportion using illicit drugs the last 12 months in the current sample must be regarded as somewhat large (10 percent of 16-24-year-olds in metropolitan areas in CAN: s study [Guttormsson, Andersson & Hibell, 2004 p. 46, table N]).

Turning to substances used among lifetime users of illicit drugs, the table shows that hash/marijuana has been used by almost everyone. Only 12 persons state that they never have used this drug. That this is the illicit substance most widely used has been documented numerous of times, and is thus not surprising. When looking at the other substances, a large proportion of missing values are at hand, ranging up to 30 percent for ‘other’ (not shown). Considering the very low percent of missing values on frequency of illicit drug use in general (not substance specific) last 12 months – which was the subsequent question in the questionnaire – this presents an intriguing puzzle. It seems unlikely that the respondents were unfamiliar with the included substances. Only those with lifetime experience responded to the questions in this section and only more common substances were included. As discussed earlier, studies (see Harrison, 1997) have shown that people are less keen to report use of heavier substances. This might be reflected here in a large proportion of missing values regarding these substances. However, they are also, according to these studies, less keen to report recent use. The low rate of missing values in this section, if missing values can be understood as a rough measure of proneness to respond, is thus somewhat confusing. However, as mentioned earlier, studies that have tested external validity on self-reported illicit drug use have almost exclusively been based on selected samples of individuals. At least potentially, other patterns may be at hand when it comes to normal populations. Normal populations may have less to lose than e.g. criminal-justice populations by reporting recent use. For example, reports of recent use among imprisoned individuals may subsequently lead to stricter rules (e.g. more controls) affecting oneself on a day-to-day basis.

However, the frequencies regarding valid percents show that only a minority state that they have used these substances. Thus the illicit substance use history of the sample by and large resembles what has been reported previously: that illicit drug use among the normal population of Swedish
Method

adolescents mostly contain of cannabis use (El-Khoury & Sundell, 2005; Guttormsson, Andersson & Hibell, 2004, Rask, 2005).

The table also show that the lifetime prevalence of alcohol use is 95 percent. According to CAN:s (Guttormsson, Andersson & Hibell, 2004, p. 53 table Q) national estimates, in 2003 the lifetime prevalence of alcohol among 16-24 year olds were precisely 95 percent (a percentage rate that has been stable since 1994). Among 16-18-year-olds it was 93 percent, among 19-21-year-olds 96 percent and among those aged 22-24 it was 98 percent. No mentionable differences between regional locations were detected. The sample’s lifetime prevalence is thereby to be considered as reasonable.

When comparing frequency of binge-drinking with other available sources one has to be more cautious. The amounts consumed of different alcoholic beverages considered as binge-drinking differ slightly from CAN:s study. Whereas both use the same cut off for hard liquor (1/4 bottle of 70cl) and wine (one bottle), for beer it is lower in the present study (3 cans vs. 4 cans of strong beer and 5 cans vs. 6 cans of medium-strong beer). This said, table 4:1 shows that, among life-time alcohol drinkers, one in two have been binge-drinking at least once a month during the last 12 months. According to CAN:s estimates, only 29 percent of all 16-18-years-olds (not just life-time users) has been binge-drinking once a month or more often the last 12 months (Guttormsson, Andersson & Hibell, 2004, p. 67 table W). In order to facilitate a comparative estimate, i.e. table 4:2 only shows the percentage rate among lifetime drinkers, the percentage of monthly (or more often) binge-drinkers was computed for the sample as a whole. Both missing values and never drinkers were collapsed into one category in CAN:s study and the same procedure was followed here. The calculation showed that across the whole sample, slightly less than 49 percent were binge-drinking once a month or more often. This percentage rate clearly exceeds CAN:s. It is also somewhat higher than CAN:s estimate for 19-21-year-olds (48 percent). As CAN only detected minor regional variations, the high rate of frequent binge-drinkers might be due to sampling bias. Yet, some part of this difference might depend on the usage of slightly different binge-drinking measures.

To test this, a comparison was made between another measure of binge-drinking included in both studies: the respondents’ subjective views of how many times they had been drinking so much as to feel drunk during the same time frame. Interestingly, the difference decreased. The proportion in the current sample reporting doing so at least once a months was 48 percent. In CAN:s study it was 41 percent among 16-18-year-olds and 58 percent among those aged 19-21. This suggests that the above noted differences to some extent might be due to different cut-offs for beer.

38 No figures were presented for each birth cohort.
A significant flaw that must be stressed is that the study failed to accurately tap the respondent’s socio-economic status. Such an attempt was made, however. Two measures were used: parents’ education and parent’s occupation. Parents’ occupation was measured by an open-ended question where the respondents were instructed to fill in father’s and mother’s occupation separately. The problem here was not a large amount of missing values, but that many answers were too vague. Typical answers were ‘works at the bank’ or ‘works at Ericsson’. When trying to code these answers according to Statistics Sweden’s classification scheme for socio-economic status (SEI) only a minority of the responses could safely be assigned a value. Statistics Sweden’s SEI-scheme is fairly detailed. It makes distinctions between different blue-collar occupations and between different white-collar occupations. Even after these distinctions were ruled out in favour of a crude distinction between blue-collar and white-collar occupations, only about half the responses could be assigned a value for both mother and father independently. Thus, unfortunately, I was forced to exclude this variable from the study.

The problem with the measure of education was not vagueness – this was not an open-ended question – but a large amount of “don’t know-reponses” (about 20 percent for both mother’s and father’s education). This rate was considered as too substantial and the education variable was discarded from the final analyses. Although this loss is unfortunate for descriptive purposes, it need not raise severe analytical impediments regarding the topic under investigation. A number of sources indicate that illicit drug use per se among young people do not vary by socio-economic status (Chalier, Chau, Prédine, Choquet & Legras, 2000; Kandel, 1980; Kokkevi & Stefanis, 1991; Pape & Rossow, 2004, Pedersen & Skrondal, 1999; Ramsey, Baker, Goulden, Sharp & Sondhi, 2001). Rather, as Rhodes et al. (2003) conclude, associations with class indicators are usually limited to problematic use (lower classes overrepresented). Considering the nature of the population studied, the latter aspect should be less a problem.

Of course, this does not preclude the possibility of an empirical association between social class and perceptions/expectancies. Besides that there are no theoretical reasons to think so, no substantial associations have been documented between social class and perceived risk among adolescents (Millstein & Halpern-Felsher, 2002 for a review for extant studies into this topic). Lundberg and Lindgren (2002), to name a study fairly similar the current one, found no significant association between risk perception of alcohol and social class among a sample of Swedish adolescents aged 12-1839.

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39 It could be mentioned that I conducted analyses based on valid responses regarding both measures of socio-economic status in the present study. These showed no associations with the outcomes studied.
Analytical strategy and independent variables

The short research review outlined in the first section of this chapter highlighted two distinctions repeatedly shown in prior research. Informed by this review, the variables sex and experience of illicit drug use play a central role in this study. Almost every time comparisons are made, these two variables are included. Each of two chapters dealing with the empirical part begins with comparisons of mean values and percentages in central outcome variables. Positive and negative consequences items are subjected to factor analyses and indices are subsequently constructed. Thereafter regression analyses are conducted, treating perceptions/expectancies as outcomes. Both OLS- and logistic regression techniques are utilized. These analyses are carried through in two steps. The first step includes the variables sex and experience of illicit drug use. The second step includes a set of additional variables (see more below). The reason for this is to examine whether the strength of the potential associations substantially decreases when controlling for other variables. This check cannot be done in less than two steps. In some cases, analyses are only conducted amongst those with illicit drug experience. Then, the general illicit drug use variable is exchanged for variables pertaining to frequency of use last 12 months.

The following additional independent variables are included in step two in all regression analyses. The reason for this is that they previously have been found to be associated with outcomes similar to those focused here.

Country of birth. Lundborg and Lindgren (2002) found that individuals born outside Sweden rated the risks of alcohol as significantly lower than individuals born in Sweden. To the extent that similarities exist between perceptions of alcohol and illicit drugs, it can be presumed that this variable is of importance here.

School-based drug education last 12 months (including tobacco, alcohol and illicit drugs). Lundborg and Lindgren (2002) found that those who had received drug education in school last semester perceived the risks of alcohol as significantly lower than those without such experience.

Binge-drinking at least once a month last 12 months. A British study (Willner, 2001) has shown that among young non-users of cannabis, positive cannabis expectancies increase and negative ditto decrease with increasing frequency of alcohol use. Although not tested, Willner's findings may indicate that frequent binge-drinking is independently related to perceptions and expectancies of illicit drug use in general. In addition, this possibility was informed by prior studies indicating that experience of one type of behaviour influence the perception of other 'functionally' equal behaviours (see Goldberg, Halpern-Felsher & Millstein, 2002). This may also be the case with illicit drug use and binge-drinking (i.e. both relates to alterations in the human consciousness). This variable is included in the separate analyses among those with illicit drug use experience.
experience as well. A check of data showed that a substantial proportion of individuals in this group had not been binge-drinking at least once a month last 12 months.

**Family structure.** Research has found that those who live with both parents are at lower risk for illicit drug use (Jenkins & Zunguze, 1998; McArdle et al, 2002; Sutherland & Shepherd, 2001). This is not to say that there actually is an association with expectancies/perceptions, but the reason for including this variable reads as follows. An authoritative review of existing theories in the field concludes that beliefs likely mediate the effects of many ‘distal’ factors on adolescent substance use (Petraitis, Flay & Miller, 1995; see also Brown, 1993). This implies a potential association between family structure and perceptions/expectancies. A check of data showed that the association between family structure and illicit drug use is not so strong so as to violate the assumptions of collinearity.

Given the concerns about choice of age group as, all analyses adjust for age. Prior studies have shown that older adolescents perceive the risks of alcohol (Goldberg, Halpern-Felsher & Millstein, 2002; Lundborg & Lindgren, 2002) and a variety of other risky behaviours (Millstein & Halpern-Felsher, 2002) as lower than younger adolescents. The study by Goldberg and associates further found that with increased age, adolescent perceive the benefits of alcohol as more likely to occur. Due to the small magnitude of the age bracket in the current study, it was assumed that no substantial age differences would be found. This assumption was informed by Lundborg and Lindgren's study. Although significant age variations were detected, these only pertained to age groups with a substantial difference of age. The oldest age group differed significantly from the youngest but not from the intermediate.

Evidently, the number of independent variables included is not large. This reflects most prior research into the topics at hand. However, a difference from some prior research into risk perceptions is how the qualitative risk characteristics (QRC) are treated. In some studies they are included as predictor variables in regression models with “common” risk perception measures as outcomes. Here the QRC:s are not treated as independent variables. Instead, they are treated as different dimensions of the outcome risk perceptions. Many of the QRC:s are likely proximal to common measures of risk perception. It has been argued that there is not surprising that factors such as dread have a high predictive power of risk perception, since they are measuring about the same thing (Marris, Langford & O’Riordan, 1998).

40 Some authors have argued that dread probably is a consequence, not a cause, of perceived risk and that it therefore not should be used as a predictor (Sjöberg, Moen & Rundmo, 2004). This comment, however, is not intended to falsify the importance of the QRC:s as such. Instead, according to these authors, qualitative risk characteristics ‘form a logically coherent group of variables denoting properties of the hazard, not how the respondents reacts emotionally to the hazard’ (p. 25). This view fits well with how the QRC:s are treated in the current study, except that here they are not seen as properties as such of
Method

Perhaps this argument would not be equally accurate for all QRC:s. But for the sake of clarity I chose to treat all QRC:s as outcome variables. Similar arrangements have been done previously (Benthin, Slovic & Severson, 1993; Hampson, Severson, Burns, Slovic & Fischer, 2001; Smith & Rosenthal, 1995). In line with the view advanced in these, different QRC:s are seen as different facets of risk perceptions.

Instead of including the QRC:s as predictors in regression models, they are subjected to factor analysis together with the measure of negative expectancies (i.e. a measure fairly similar to common measures of perceived risk). To a considerable extent, this makes it possible to nevertheless investigate to what extent they hang together with perceived risk. To the extent that the QRC:s – or a subset of these – are measuring about the same thing as risk perceptions, both should load high on the same factor.

A note should be made regarding the way that the illicit drug use variable is treated in relation to the perception/expectancy variables in the regression analyses. The former is used as an independent variable but no claims of causality can be made. Prospective studies have demonstrated a reciprocal relationship between alcohol consumption and expectancies/perceptions (Aas, Leigh, Anderssen & Jacobsen, 1998; Gerrard, Gibbons, Benthin & Hessling, 1996). This highlights both the importance of expectancies/perceptions in influencing drinking and the importance of drinking experience in influencing expectancies/perceptions. The same pattern has been documented for risky behaviours such as smoking and ‘reckless’ driving (Gerrard, Gibbons, Benthin & Hessling, 1996). Thus, the arrangement has differed in cross-sectional studies exploring the relationships between these variables. Some studies have treated perceptions/expectancies as independent variables and use as the dependent variable. In other studies the arrangement has been the opposite (or both versions in the same study).

As it was variations in perceptions, rather than in actual use, that was of primary concern in the study, these variables were chosen to be the dependent variables. However, in the last section of the empirical study a regression analysis is conducted with the reverse arrangement, i.e. the perception variables are used as independent variables. This facilitates an examination of the extent to which both negative and positive perceptions are independently associated with illicit drug use, i.e. to test the association with illicit drug use for each of them while controlling for the other.
Beliefs about negative sides of illicit drug use

In this chapter I examine about negative sides of illicit drug use. The first section focuses on negative expectancies and the second on qualitative risk characteristics. The last section examines risk perceptions pertaining to the three substances hash/marijuana, heroin and ecstasy. This section also addresses the potential impact of frequency of use.

Negative expectancies

Table 5:1 presents the perceived likelihood that different negative consequences will occur from illicit drug use. The majority states that it is fairly likely, likely or very likely that use will result in all negative consequences included. More than half the sample states that ‘health problems’ and ‘do things you later on will regret’ are very likely consequences of illicit drug use. A substantial proportion (about four out of ten) also believe that ‘rows with family’, ‘economical problems’, ‘do things you normally would not do’, ‘problems in school’, ‘psychological/emotional problems’ and ‘addiction’ are very likely to occur. Relative to the other consequences, ‘problems with the police’ is perceived as least likely to occur (42 percent state ‘not likely at all’ or ‘not that likely’), followed by ‘involved in violence’ (36 percent state ‘not likely at all’ or ‘not that likely’). These findings show that the respondents are not indifferent to type of negative outcome, although most consequences are perceived as to some extent likely to occur. Here it can be noted that the respondents have some similarities with problems actually reported by illicit drug users. In a British study (Parker & Eggington, 2002) it was shown that an equivalent to ‘do things you normally would not do’ was the most prevalent problem reported, and been in trouble with the police the least. Trouble with parents was also amongst the more frequently mentioned problems, and ranked higher than trouble with friends. However, problems in school and addiction were amongst the least reported problems. This finding contrasts from the beliefs tapped here.
In Table 5.2, the proportion responding ‘fairly likely’, ‘likely’ or ‘very likely’ is compared by sex and experience/no experience of illicit drug use. Significant differences are found between the sexes for all included consequences except ‘problems with the police’. The only consequence that men to a larger extent than women think are likely to occur is ‘involved in violence’. The females believe to a greater extent that all the other consequences are likely to occur. The differences range from 6 (‘do things you later on will regret’) to 15 percentage units (‘rows with friends’).

Table 5.1. Perceived likelihood that different types of negative consequences will occur from illicit drug use (n=2047-2065). Percent and mean scores.

<table>
<thead>
<tr>
<th>1. Problems with the police</th>
<th>Not likely at all (1)</th>
<th>Not that likely (2)</th>
<th>Fairly likely (3)</th>
<th>Likely (4)</th>
<th>Very likely (5)</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Rows with family</td>
<td>11</td>
<td>31</td>
<td>26</td>
<td>19</td>
<td>12</td>
<td>2.90</td>
</tr>
<tr>
<td>3. Rows with partner</td>
<td>9</td>
<td>10</td>
<td>18</td>
<td>25</td>
<td>44</td>
<td>3.94</td>
</tr>
<tr>
<td>4. Involved in violence</td>
<td>10</td>
<td>26</td>
<td>22</td>
<td>24</td>
<td>18</td>
<td>3.14</td>
</tr>
<tr>
<td>5. Economical problems</td>
<td>6</td>
<td>10</td>
<td>18</td>
<td>24</td>
<td>42</td>
<td>3.87</td>
</tr>
<tr>
<td>6. Health problems</td>
<td>3</td>
<td>7</td>
<td>13</td>
<td>23</td>
<td>54</td>
<td>4.19</td>
</tr>
<tr>
<td>7. Rows with friends</td>
<td>6</td>
<td>15</td>
<td>21</td>
<td>28</td>
<td>31</td>
<td>3.63</td>
</tr>
<tr>
<td>8. Do things you normally would not do</td>
<td>4</td>
<td>6</td>
<td>16</td>
<td>29</td>
<td>45</td>
<td>4.06</td>
</tr>
<tr>
<td>9. Problems in school</td>
<td>5</td>
<td>8</td>
<td>16</td>
<td>25</td>
<td>46</td>
<td>3.98</td>
</tr>
<tr>
<td>10. Psychological /emotional problems</td>
<td>4</td>
<td>9</td>
<td>16</td>
<td>27</td>
<td>44</td>
<td>3.97</td>
</tr>
<tr>
<td>11. Addiction</td>
<td>6</td>
<td>10</td>
<td>16</td>
<td>24</td>
<td>44</td>
<td>3.91</td>
</tr>
<tr>
<td>12. Lose control over yourself</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>27</td>
<td>37</td>
<td>3.76</td>
</tr>
<tr>
<td>13. Get into an accident</td>
<td>4</td>
<td>13</td>
<td>24</td>
<td>31</td>
<td>27</td>
<td>3.64</td>
</tr>
<tr>
<td>14. Do things you later on will regret</td>
<td>4</td>
<td>7</td>
<td>13</td>
<td>23</td>
<td>53</td>
<td>4.15</td>
</tr>
</tbody>
</table>

Respondents without illicit drug use experience perceive all included consequences as more likely to occur than the experienced group. All differences are clearly significant. The largest difference is found for the item ‘get into an accident’ (25 percentage units), followed by ‘lose control over yourself’.
Beliefs about negative sides of illicit drug use

(23 percentage units) and ‘problems in school’ and ‘do things you later on will regret’ (18 percentage units each). The smallest difference is found for the item ‘economical problems’ which nevertheless is noteworthy (10 percentage units).

Table 5.2. Proportion reporting that different types of negative consequences fairly likely, likely or very likely will occur from illicit drug use. By sex (n=2016-2060) and experience of illicit drug use (n=2016-2061). Percent.

<table>
<thead>
<tr>
<th>Problems</th>
<th>Men</th>
<th>Women</th>
<th>Exp. of illicit drug use</th>
<th>No exp. of illicit drug use</th>
<th>Sig.</th>
<th>Sig.a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems with the police</td>
<td>59</td>
<td>56</td>
<td>46</td>
<td>61</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Rows with family</td>
<td>81</td>
<td>93</td>
<td>*** 76</td>
<td>90</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Rows with partner</td>
<td>78</td>
<td>86</td>
<td>*** 69</td>
<td>86</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Involved in violence</td>
<td>71</td>
<td>57</td>
<td>*** 53</td>
<td>67</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Economical problems</td>
<td>80</td>
<td>88</td>
<td>*** 76</td>
<td>86</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Health problems</td>
<td>86</td>
<td>95</td>
<td>*** 80</td>
<td>93</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Rows with friends</td>
<td>72</td>
<td>87</td>
<td>*** 63</td>
<td>84</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Do things you normally would not do</td>
<td>87</td>
<td>94</td>
<td>*** 81</td>
<td>93</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Problems in school</td>
<td>83</td>
<td>90</td>
<td>*** 73</td>
<td>91</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Psychological/emotional problems</td>
<td>81</td>
<td>93</td>
<td>*** 75</td>
<td>90</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Addiction</td>
<td>80</td>
<td>89</td>
<td>*** 70</td>
<td>88</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Lose control over yourself</td>
<td>77</td>
<td>87</td>
<td>*** 64</td>
<td>87</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Get into an accident</td>
<td>78</td>
<td>87</td>
<td>*** 63</td>
<td>88</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>Do things you later on will regret</td>
<td>86</td>
<td>92</td>
<td>*** 76</td>
<td>93</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

*Fischer's exact test (2-sided), ***p<0.001

*Fischer's exact test (2-sided), ***p<0.001
Table 5.3. Correlations (Pearson’s r) between negative consequences.

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
<th>11.</th>
<th>12.</th>
<th>13.</th>
<th>14.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. problems with the police</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Rows with family</td>
<td>.50</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Rows with partner</td>
<td>.44</td>
<td>.63</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Involved in violence</td>
<td>.60</td>
<td>.40</td>
<td>.43</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Economical problems</td>
<td>.44</td>
<td>.50</td>
<td>.48</td>
<td>.51</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Health problems</td>
<td>.41</td>
<td>.56</td>
<td>.53</td>
<td>.42</td>
<td>.64</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Rows with friends</td>
<td>.43</td>
<td>.60</td>
<td>.62</td>
<td>.45</td>
<td>.53</td>
<td>.61</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Do things you normally would not do</td>
<td>.40</td>
<td>.50</td>
<td>.47</td>
<td>.46</td>
<td>.53</td>
<td>.61</td>
<td>.62</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Problems in school</td>
<td>.44</td>
<td>.57</td>
<td>.54</td>
<td>.48</td>
<td>.62</td>
<td>.67</td>
<td>.65</td>
<td>.70</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Psychological/ emotional problems</td>
<td>.40</td>
<td>.55</td>
<td>.53</td>
<td>.40</td>
<td>.54</td>
<td>.67</td>
<td>.63</td>
<td>.64</td>
<td>.72</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Addiction</td>
<td>.43</td>
<td>.48</td>
<td>.47</td>
<td>.47</td>
<td>.60</td>
<td>.65</td>
<td>.56</td>
<td>.62</td>
<td>.66</td>
<td>.66</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Lose control over yourself</td>
<td>.45</td>
<td>.49</td>
<td>.50</td>
<td>.51</td>
<td>.58</td>
<td>.64</td>
<td>.60</td>
<td>.67</td>
<td>.69</td>
<td>.66</td>
<td>.78</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Get into an accident</td>
<td>.47</td>
<td>.50</td>
<td>.54</td>
<td>.54</td>
<td>.60</td>
<td>.58</td>
<td>.63</td>
<td>.62</td>
<td>.62</td>
<td>.68</td>
<td>.75</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Do things you later on will regret</td>
<td>.40</td>
<td>.49</td>
<td>.50</td>
<td>.44</td>
<td>.55</td>
<td>.66</td>
<td>.57</td>
<td>.70</td>
<td>.68</td>
<td>.65</td>
<td>.66</td>
<td>.71</td>
<td>.71</td>
<td>1</td>
</tr>
</tbody>
</table>

All correlations significant at p<0.001
Beliefs about negative sides of illicit drug use

In the next step, correlations were computed for all items. As can be seen in table 5:3, the items are fairly strongly to strongly associated with each other. The strength ranges from 0.40 to 0.78. Thus in general, the more likely one thinks it is that illicit drug use will lead to e.g. addiction, the more likely one tends to think it is that this use also will lead to e.g. psychological/emotional problems, health problems and rows with friends.

In order to elaborate on these associations further, a principal component factor analysis was carried through (table not shown). The analysis produced one single factor accounting for 60 percent of the variance. The factor loadings range from 0.61 to 0.85. Therefore, a generic negative consequences index was computed based on all single items. A reliability test showed that the internal consistency of the index is strong (Cronbach’s alpha = 0.95).

To make the range of the total index the same as the single items – i.e. to simplify the interpretation of the scores on the index – each respondent’s total score was divided by 14 (number of items) yielding average scores ranging from 1 (not likely at all) to 5 (very likely). To avoid misleading total scores due to missing values, only those responding to all items were included in further analyses (n = 1973).

The mean score on the perceived likelihood of negative consequences index (hereafter referred to as PNCI) is 3.78 (s.d. 0.91). This means that on average, enrolled subjects believe that negative consequences likely will occur if illicit drugs are used. There is a significant difference between the sexes; men have a lower score than women (men = 3.63, women = 3.95, m.d. = -0.32, p<0.001). Those who have used illicit drugs have a significantly lower score than those without such experience (experienced = 3.31, non-experienced = 3.93, m.d. = -0.62, p<0.001). Yet the former group believes on average that use somewhere between fairly likely and likely will result in negative consequences.

In the next step, a multiple regression analysis was carried through treating the PNCI as dependent variable. Table 5:4 gives the findings. Turning to model 1, there is still a significant difference between men and women when illicit drug use is controlled for. Conversely, there is a significant difference between users and non-users when controlling for sex. As can be seen in model 2, the magnitude of the coefficients for these two variables stays intact when age, country of birth, family structure, drug education last 12 months and frequent binge-drinking last 12 months are added. Interestingly, respondents born in Sweden perceive it as significantly less likely than those born outside Sweden that negative consequences will

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41 It should be noted that the distribution is somewhat negatively skewed. However, the skewness statistic (-0.79) suggests that the magnitude of the skewness is acceptable.
occur. This finding accords with Lundborg and Lindgren’s (2002) results concerning risk perceptions of alcohol among a sample of Swedish adolescents. No associations with the PNCI emerge for any of the other 1 variables.

Table 5.4: Multiple regression analysis of the PNCI. Unstandardized coefficients and significance values.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>-0.27***</td>
<td>-0.26***</td>
</tr>
<tr>
<td>Experience of illicit drug use</td>
<td>-0.61***</td>
<td>-0.59***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td></td>
<td>-0.14*</td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Drug education in school last 12 months</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Binge-drinking at least once a month last 12 months</td>
<td></td>
<td>-0.04</td>
</tr>
<tr>
<td>Constant</td>
<td>4.06***</td>
<td>4.14***</td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>n</td>
<td>1759</td>
<td>1759</td>
</tr>
</tbody>
</table>

***p<0.001, *p<0.05

Separate analyses of lifetime users

So far the analyses have only utilized a rough measure of illicit drugs involvement – lifetime use. To make a more thorough examination, separate analyses were conducted among lifetime users. These examined potential associations with frequency of use last 12 months. It was expected that level of involvement would be inversely related with the PNCI. Prior research shows an association between level of drinking and alcohol expectancies (Jones, Corbin & Fromme, 2001).

In a first step, mean scores on the PNCI was compared by use last 12 months and no use during the same time frame. As expected, those who have used last 12 months score lower on the PNCI. The difference is substantial (m.d.= -0.58, p<0.001). An additional comparison between the group consisting of the most heavy users last 12 months (at least 10 times) and the other user groups (ranging from 1 to 9 times) also revealed mentionable differences (m.d.= -0.47, p<0.001).
A multiple regression analysis was conducted to further test these associations. Four categories pertaining to frequency of use were included. Table 5:5 shows that there is a clear inverse linear relationship between frequency of use and perceived likelihood that negative consequences will occur. The heavier involvement last 12 months, the lower score on the PNCI. Considering that the range of the PNCI only ranges from 1 to 5, the magnitude of the coefficients must be regarded as substantial.

Table 5.5. Multiple regression analysis of the PNCI. Unstandardized coefficients and significance values. Only lifetime users of illicit drugs included.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>-0.24**</td>
</tr>
<tr>
<td>No use last 12 months (ref.)</td>
<td>0</td>
</tr>
<tr>
<td>Use 1-2 times last 12 months</td>
<td>-0.38***</td>
</tr>
<tr>
<td>Use 3-9 times last 12 months</td>
<td>-0.67***</td>
</tr>
<tr>
<td>Use more than 10 times last 12 months</td>
<td>-0.90***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td>0.02</td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>0</td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>0.09</td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>-0.27*</td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>0.00</td>
</tr>
<tr>
<td>Drug education in school last 12 months</td>
<td>-0.05</td>
</tr>
<tr>
<td>Binge-drinking at least once a month last 12 months</td>
<td>0.34**</td>
</tr>
<tr>
<td>Constant</td>
<td>3.81***</td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.13</td>
</tr>
<tr>
<td>n</td>
<td>406</td>
</tr>
</tbody>
</table>

***p<0.001, **p<0.01, *p<0.05

The table further shows that the analysis revealed similar findings as described above when it comes to the sexes. This was expected. There are no theoretical reasons to assume that this pattern would change when analysing solely lifetime users. Also reflecting the findings shown in table 5:4, among life-time users, there is a significant effect of country of birth. Individuals born in Sweden state that negative consequences are less likely to occur than what individuals born abroad do. Taking into account the small range of the PNCI and the fact that a number of variables are controlled, the size of the coefficient implies that these differences are notable.
A look at the binge-drinking variable reveals an intriguing finding. Frequent binge-drinking last 12 months is positively related with perceived likelihood that negative consequences will follow illicit drug use. This association was not found in the regression analysis among the whole sample. There, frequent binge-drinking was found to be unrelated to beliefs of negative consequences. However, an additional analysis including only the illicit drug inexperienced group revealed that frequent binge-drinking last 12 months in this group is significantly negatively related with the PNCI (b = -0.1, p<0.05)\textsuperscript{42}. This suggests that the direction of the association varies as function of whether one has used illicit drugs or not.

The association found regarding the inexperienced group agrees with what has been shown previously, i.e. that heavier use of alcohol among illicit drug inexperienced individuals is associated with lowered concerns about untried drugs (Fabricius, Nagoshi & MacKinnon, 1993; Willner, 2001). But the fact that frequent binge-drinking among the other group is related with a higher perceived likelihood of negative consequences is intriguing.

Evidently, this association is not due to any of the other variables included in model 2, i.e. their impact is controlled. From this follows that two possible interpretations remain. The first holds that there is a ‘true’ relationship between the PNCI and frequent binge-drinking produced by an unknown mechanism. The second holds that this relationship is spurious, i.e. a confounding variable is missing. The latter would mean that frequent binge drinkers differ from the other group in other respects. The association found would thus be due to these other characteristics. This was deemed as the most plausible interpretation. There is, to my knowledge, no theoretical reason to think otherwise.

A hypothesis concerning the possibility of a spurious relationship was that the frequent binge drinkers would be less involved in use of heavier substances such as heroin and LSD. This means that one group consists of individuals with a less deviant substance use profile, and one with a more deviant profile\textsuperscript{43}. This would mean that there is an association between use

\textsuperscript{42} A significant interaction effect between experience of illicit drug use and frequent binge-drinking last 12 months was found in an additional analysis of the whole sample.

\textsuperscript{43} British studies, for instance, has shown that a combination of alcohol and less heavy illicit substances is common among so-called recreational users, and then mainly contained by weekends (‘intoxicated weekends’) (see Parker, 2003). What characterises this group is according to Parker that they do not display the type of deficits usually found for problematic drug users such as underachievement, criminality and social stigmatisation. Instead they try to create a ‘work hard-play hard equilibrium’ (p. 142) where illicit drug use functions as a time-out from other requirements in life. Thus, a check of how many times the two groups had been ‘out’ last 30 days (pubs, clubs and bars) – i.e. a rough measure of Parker’s term ‘intoxicated weekends’ – showed that they differed significantly from each other. Whereas among the frequent binge-drinking group 91 percent had been so, in the other group the figure was only 64 percent (p<0.001). This comparison indicated a
Beliefs about negative sides of illicit drug use

of heavier substances and lower perceived likelihood that negative consequences will occur to use in general. Indeed, this would be a plausible finding. In order to check for this possibility, I examined lifetime use of all illicit substances covered by the questionnaire.

Table 5.6. Lifetime use of different illicit substances. By frequent binge-drinking last 12 months among lifetime users of illicit drugs. Percent (absolute numbers in parenthesis).

<table>
<thead>
<tr>
<th></th>
<th>Binge-drinking ≥ once a month last 12 months</th>
<th>Binge-drinking &lt; once a month last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana/hash (n.s.)^a</td>
<td>97 (348)</td>
<td>98 (88)</td>
</tr>
<tr>
<td>Amphetamine (n.s.)^a</td>
<td>14 (39)</td>
<td>10 (7)</td>
</tr>
<tr>
<td>Cocaine (n.s.)^a</td>
<td>16 (44)</td>
<td>13 (9)</td>
</tr>
<tr>
<td>Heroin (n.s.)^a</td>
<td>3 (7)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Other opiates (n.s.)^a</td>
<td>5 (13)</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Tranquilizers (n.s.)^a</td>
<td>17 (70)</td>
<td>24 (12)</td>
</tr>
<tr>
<td>LSD (n.s.)^a</td>
<td>7 (14)</td>
<td>7 (5)</td>
</tr>
<tr>
<td>Ecstasy (n.s.)^a</td>
<td>20 (58)</td>
<td>18 (13)</td>
</tr>
<tr>
<td>Other (n.s.)^a</td>
<td>16 (40)</td>
<td>12 (8)</td>
</tr>
</tbody>
</table>

^a Fisher's exact test (2-sided).

Table 5.6 shows that both groups are similar when it comes to experience of using different substances. No significant differences were detected. Very few individuals in the binge-drinking < once a month group have used the heavier substances. Only one person have used heroin and only 5 have used LSD in this group. Here it must be kept in mind, though, that the questions pertaining to all substances but hash/marijuana contain a substantial amount of missing values. Yet, a check (not shown) of the proportion of missing values in each group showed a remarkably similar pattern across all substances. This suggests that the differences in the PNCI between frequent binge drinkers and the other group might not be due to use of more heavy substances in one of the groups.

Another potential explanation is that the < once a month group had started using illicit drugs at a substantially younger age. The differences found in the perception of negative consequences would thus be a product of a longer personal exposure time to illicit drugs. This was not confirmed difference thought of as having to do with type of drug use profile – a less deviant group characterised by recreational drug use (following the "time-out" logic), and one rather characterised by problematic drug use.
by data, however. The debut age is exactly the same in both groups (15.8 years). Most likely, the association found is due to another confounder. Unfortunately, there are no data available to test this.

**Perceptions of qualitative risk characteristics**

As mentioned in the previous chapter, research has used a number of ‘qualitative risk characteristics’ to tap people’s perception of risk. To take into account the different facets of risk, these were considered in this study as well.

Table 5.7 gives the means for included qualitative risk characteristics. Overall, subjects state that it is about fairly likely that illicit drug use can lead to consequences unknown to science today and that their chance of controlling the risks is fairly small. They believe that the risks are fairly well known to science, which appears somewhat contradictory in the light of their responses to the first item. The risks are somewhat well-known to them personally and they state that they have known them for a long time. The information delivered in school about risks is trusted and so is research findings presented in media about risks. The respondents are generally somewhat afraid of the risks associated with illicit drug use.

A rough measure was also included as regards perceived seriousness of negative consequences, should they occur. Overall, the respondents state that these consequences would be serious rather than insignificant. Moreover, overall negative consequences are believed neither to occur immediate, nor much later. This reflects the fact that this question contained a both-and category, which was endorsed by half the sample. The vast majority thus believes that illicit drug use can bring about both short-and long-term negative consequences.

To some extent, the response pattern to these characteristics is intriguing. Research shows that if risks are novel to people, they usually have high risk perception. Conversely, risks perceived as well known – like those associated with alcohol – are usually judged as fairly small (see Sjöberg, 1998). To the extent e.g. ‘dread’ is a consequence of perceived risk (Sjöberg, Moen & Rundmo, 2004), it is notable that risks of illicit drug use are well known among respondents. Subjects have known the risks for a long time but are nevertheless rather afraid of them. In a subsequent section, I explore this pattern by means of factor analysis also including the PNCI. First, however, I compare the responses to each of the qualitative risk characteristics by the variables of primary interest.
Table 5.7. Qualitative risk characteristics (n=2019-2083). Means.

<table>
<thead>
<tr>
<th>Range</th>
<th>Mean (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6 (1=very unlikely, 6= very likely)</td>
<td>4.25 (1.43)</td>
</tr>
<tr>
<td>1-6 (1 = very small, 6 = very great)</td>
<td>2.82 (1.49)</td>
</tr>
<tr>
<td>1-6 (1 = very unknown, 6= very well-known)</td>
<td>4.32 (0.98)</td>
</tr>
<tr>
<td>1-6 (1 = very unknown, 6 = very well-known)</td>
<td>4.28 (1.25)</td>
</tr>
<tr>
<td>1-6 (1=very serious harm, 6= very insignificant harm)</td>
<td>2.18 (1.11)</td>
</tr>
</tbody>
</table>
Table 5:7 continued.

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. 'How much do you trust the information delivered in school about</td>
<td>1-5</td>
<td>3.40 (1.08)</td>
</tr>
<tr>
<td>the risks associated with illicit drug use?'</td>
<td>(1 = not at all, 5 = very much)</td>
<td></td>
</tr>
<tr>
<td>7. 'How much do you trust the research findings about risks</td>
<td>1-5</td>
<td>3.45 (0.93)</td>
</tr>
<tr>
<td>associated with illicit drug use that are reported in the media?'</td>
<td>(1 = not at all, 5 = very much)</td>
<td></td>
</tr>
<tr>
<td>8. 'How afraid are you of the risks associated with illicit drug</td>
<td>1-5</td>
<td>3.50 (1.18)</td>
</tr>
<tr>
<td>use?'</td>
<td>(1 = not afraid at all, 5 = very</td>
<td></td>
</tr>
<tr>
<td>9. 'Are the risks associated with illicit drug use novel to you or</td>
<td>1-6</td>
<td>4.84 (0.92)</td>
</tr>
<tr>
<td>have you known them for a long time?'</td>
<td>(1 = very novel, 6 = known for a</td>
<td></td>
</tr>
<tr>
<td>10. 'Do you think that negative consequences of illicit drug use</td>
<td>1-7</td>
<td>4.22 (1.20)</td>
</tr>
<tr>
<td>are immediate or do they occur later?'</td>
<td>(1 = very immediate, 7 = occur much later)</td>
<td></td>
</tr>
</tbody>
</table>

Table 5:8 shows that there are significant differences between the sexes in their responses to all items but two (items 4 and 9). The risks are deemed to be old and well-known among both males and females. Relative to the females, the males state that it is less likely that illicit drug use can lead to consequences that are unknown to science today and that they have a greater chance to control the risks associated with illicit drug use. The males are more inclined to conceive of negative consequences as insignificant and to think that negative consequences would occur later. They also state that the risks are more well-known for science than what their female counterparts do. They have less trust in the information provided by school, and they also have less trust in research findings presented in the media. Lastly, they are less afraid of the risks than what the women are.

There are significant mean differences between experienced and non-experienced for all items but one (item 9). Regarding this exception, both groups state that they have known the risks for a long time. Differences documented are considerable. Illicit drug experienced respondents state, relative to individuals without such experience, that it is less likely that use can lead to consequences unknown to science today. They state to a larger extent than the other group that the risks are well-known to science and to
themselves. The latter finding is of particular note as the illicit drug experienced group at the same time is dramatically less afraid of the risks. The experienced group is more inclined to state that negative consequences, in the case of occurrence, would be insignificant for themselves and that these consequences would occur later. Moreover, this group is also more prone to think that they can control the risks associated with use and to have less trust in risk information provided in school and risk-research findings presented in the media.

Table 5:8. Qualitative risk characteristics. By sex (n=2015-2078) and experience of illicit drug use (n=2017-2079). Means.

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Sig*</th>
<th>Exp. of illicit drug use</th>
<th>No exp. of illicit drug use</th>
<th>Sig*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ‘How likely do you think it is that illicit drug use can lead to consequences unknown to science today?’</td>
<td>4.08</td>
<td>4.44</td>
<td>***</td>
<td>4.03</td>
<td>4.32</td>
<td>***</td>
</tr>
<tr>
<td>2. ‘If you use or would use illicit drugs, how great do you think your chance is to control the risks associated with this use?’</td>
<td>3.07</td>
<td>2.55</td>
<td>***</td>
<td>3.59</td>
<td>2.59</td>
<td>***</td>
</tr>
<tr>
<td>3. ‘How well-known do you think that the risks associated with illicit drug use are to science?’</td>
<td>4.36</td>
<td>4.27</td>
<td>*</td>
<td>4.42</td>
<td>4.28</td>
<td>**</td>
</tr>
<tr>
<td>4. ‘How well-known are the risks associated with illicit drug use to you personally?’</td>
<td>4.28</td>
<td>4.27</td>
<td></td>
<td>4.61</td>
<td>4.18</td>
<td>***</td>
</tr>
</tbody>
</table>
Table 5:8 continued.

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Mean</th>
<th>95% CI</th>
<th>t-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>‘If an accident or something else negative happened to you due to you using illicit drugs, do you think this would imply serious or insignificant harm to yourself?’</td>
<td>2.40</td>
<td>1.95***</td>
<td>2.64</td>
<td>2.04***</td>
</tr>
<tr>
<td>6.</td>
<td>‘How much do you trust the information delivered in school about the risks associated with illicit drug use?’</td>
<td>3.17</td>
<td>3.64***</td>
<td>2.99</td>
<td>3.52***</td>
</tr>
<tr>
<td>7.</td>
<td>‘How much do you trust the research findings about risks associated with illicit drug use that are reported in the media?’</td>
<td>3.31</td>
<td>3.59***</td>
<td>3.15</td>
<td>3.53***</td>
</tr>
<tr>
<td>8.</td>
<td>‘How afraid are you of the risks associated with illicit drug use?’</td>
<td>3.24</td>
<td>3.77***</td>
<td>2.80</td>
<td>3.70***</td>
</tr>
<tr>
<td>9.</td>
<td>‘Are the risks associated with illicit drug use novel to you or have you known them for a long time?’</td>
<td>4.82</td>
<td>4.86</td>
<td>4.90</td>
<td>4.82</td>
</tr>
<tr>
<td>10.</td>
<td>‘Do you think that negative consequences of illicit drug use are immediate or do they occur later?’</td>
<td>4.30</td>
<td>4.14**</td>
<td>4.51</td>
<td>4.13***</td>
</tr>
</tbody>
</table>

\( \tau \)-test, ***p<0.001, **p<0.01, *p<0.05

A series of logistic regression analyses was carried through to further test these associations. As can be seen in table 5:9, most significant differences remain between males and females and between illicit drug experienced and non-experienced when adjusting for age, country of birth, family structure, drug education in school last 12 months, country of birth and frequent binge-drinking last 12 months. Overall, the size of the coefficients for sex and experience of illicit drug use only slightly decreases in model 2. One exception emerges for illicit drug experience as regards item 6.

Few significant associations were found for the other variables. Interestingly, those who have been frequent binge drinkers last year are less
Beliefs about negative sides of illicit drug use

inclined to state that the risks associated with illicit drugs are uncontrollable. They have less trust in risk information provided in school. They are more inclined to state that negative consequences of use would occur immediately.

Unexpectedly, a few significant associations were found for age. The youngest age group differ from those aged 18 year in two of the QRC:s that concern science. They are more likely to believe that the risks are unknown to science and they have less trust in risk research findings. These views are consistent with each other. They suggest a more sceptical outlook towards science than what is at hand amongst those aged 18 years. However, these findings do not indicate that a sceptical outlook towards science varies by age in a continuous fashion, i.e. the older the less sceptical. Although not significant regarding the oldest age group, the results regarding item 3 and 7 show that both the youngest and the oldest age group are more sceptical towards science than what 18-year-olds are. As there are no theoretical reasons to assume this pattern, these variations might be due to other characteristics not possible to detect by available data.

The youngest age group also have significant higher odds than those aged 18 for stating that risks are novel. This finding agrees with what was expected. Their lower age implies that they have had less time to be exposed to illicit drugs (cf. Smith & Rosenthal, 1995 for this expectation regarding risk behaviour in general among young people). However, although not significant, the oldest age group have higher odds than those aged 18 to state that the risks are novel.

A couple of significant associations were found for family structure. Those who live with both parents have higher odds for believing that risks are uncontrollable and to be afraid of them. They have higher odds for trusting risk research findings. The direction of these associations is consistent with each other and indicates a high concern about the risks of illicit drug use. The responses to other QRC:s do not vary by family structure.
Table 5.9: Logistic regression analyses of different qualitative risk characteristics. Odds Ratios.

<table>
<thead>
<tr>
<th></th>
<th>Consequences unknown to science today</th>
<th>Risks uncontrollable</th>
<th>Risks unknown to science</th>
<th>Risks unknown personally</th>
<th>Negative consequences insignificant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Model 1 0.57*** Model 2 0.56***</td>
<td>Model 1 0.56***</td>
<td>Model 2 0.58***</td>
<td>Model 1 1.02</td>
<td>Model 2 1.01</td>
</tr>
<tr>
<td>Experience of illicit drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 17 years</td>
<td>Model 1 0.84</td>
<td>Model 2 0.98</td>
<td>Model 1 1.75**</td>
<td>Model 2 1.22</td>
<td></td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>1.00</td>
<td>0.98</td>
<td>1.34</td>
<td>1.40</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>Model 1 0.87</td>
<td>Model 2 1.23</td>
<td>Model 1 1.07</td>
<td>Model 2 1.36</td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>0.91</td>
<td>1.27*</td>
<td>1.01</td>
<td>0.99</td>
<td></td>
</tr>
<tr>
<td>Drug education in school last 12 months</td>
<td>1.18</td>
<td>1.11</td>
<td>0.96</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>Binge-drinking at least once a month last 12 months</td>
<td>1.07</td>
<td>0.71**</td>
<td>0.88</td>
<td>1.06</td>
<td></td>
</tr>
<tr>
<td>Pedo R2</td>
<td>0.04</td>
<td>0.04</td>
<td>0.11</td>
<td>0.12</td>
<td>0.00</td>
</tr>
<tr>
<td>n</td>
<td>1826</td>
<td>1826</td>
<td>1826</td>
<td>1826</td>
<td>1826</td>
</tr>
</tbody>
</table>

*** p<0.001, ** p< 0.01, * p<0.05

1= fairly likely, likely and very likely, 0= fairly unlikely, unlikely and very unlikely

1= fairly small, small, and very small chance to control risks, 0= fairly large, large and very large chance to control risks.

1= fairly unknown, unknown and very unknown to science, 0= fairly well-known, well-known and very well-known to science

1= fairly unknown, unknown and very unknown to personally, 0= fairly well-known, well-known and very well-known personally

1= fairly insignificant, insignificant and very insignificant harm, 0= very serious, serious and fairly serious harm
Table 5:9 continued.

<table>
<thead>
<tr>
<th></th>
<th>Low trust in risk information from school&lt;sup&gt;f&lt;/sup&gt;</th>
<th>Low trust in research findings about risks&lt;sup&gt;g&lt;/sup&gt;</th>
<th>Afraid of risks ('dread reaction')&lt;sup&gt;h&lt;/sup&gt;</th>
<th>Risks novel&lt;sup&gt;i&lt;/sup&gt;</th>
<th>Negative consequences immediate&lt;sup&gt;j&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Male</td>
<td>2.32***</td>
<td>2.22***</td>
<td>1.73***</td>
<td>1.79***</td>
<td>0.44***</td>
</tr>
<tr>
<td>Experience of illicit drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 17 years</td>
<td>2.94***</td>
<td>2.40***</td>
<td>2.87***</td>
<td>2.41***</td>
<td>0.23***</td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>1.26</td>
<td>2.03**</td>
<td>0.83</td>
<td>2.35*</td>
<td>0.97</td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>1.24</td>
<td>1.30</td>
<td>1.01</td>
<td>1.56</td>
<td>1.18</td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>1.03</td>
<td>0.58*</td>
<td>1.22</td>
<td>1.25</td>
<td>0.93</td>
</tr>
<tr>
<td>Drug education in school last 12 months</td>
<td>0.85</td>
<td>0.60***</td>
<td>1.30*</td>
<td>1.18</td>
<td>0.99</td>
</tr>
<tr>
<td>Binge-drinking at least once a month last 12 months</td>
<td>1.56***</td>
<td>1.16</td>
<td>0.90</td>
<td>1.06</td>
<td>0.67**</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.10</td>
<td>0.12</td>
<td>0.07</td>
<td>0.10</td>
<td>0.16</td>
</tr>
<tr>
<td>n</td>
<td>1837</td>
<td>1837</td>
<td>1844</td>
<td>1844</td>
<td>1842</td>
</tr>
</tbody>
</table>

<sup>f</sup> 1= not at all and not that much trust, 0= fairly much, much and very much trust
<sup>g</sup> 1= not at all and not that much trust, 0= fairly much, much and very much trust
<sup>h</sup> 1= fairly afraid, afraid and very afraid, 0= not afraid at all and not that afraid
<sup>i</sup> 1= very novel, novel and fairly novel, 0= known them for a fairly long time, known them for a long time and known them for a very long time
<sup>j</sup> 1= very immediate, immediate and fairly immediate, 0= both and, occur somewhat later and occur much later
Chapter 5

Separate analyses of lifetime users

Separate analyses into perceptions about qualitative risk characteristics were conducted among lifetime users. The findings are given in table 5:10. Overall, there are differences between males and females. A similar pattern was found in the analyses on the whole sample and was thus not unexpected. Several associations were found regarding use habits last year as well. While there are no significant associations with perceptions about science’s knowledge about risks, several notable relationships exist as regards personal issues. Subjects in the most experienced category have a nine times higher odds than the no-use group for stating that negative consequences would be insignificant for them personally in case of occurrence. Indeed, this difference is large. The most frequent users have substantially smaller odds than the no-use group for stating that risk are uncontrollable. They are considerably less prone to be afraid of risks. Further, these individuals hold a relatively lower trust in risk information provided in school or the media about risks of illicit drugs.

Expectedly, only a few associations were found for the other variables. Subjects who have received drug education last 12 months have higher odds for stating that illicit drug use may imply consequences unknown to science at current. The youngest age group is most inclined to state that risks are unknown for science. Individuals living with both parents are more inclined to trust risk research findings presented in the media. However, as no systematic relationships were found for these variables, cautiousness is warranted in drawing conclusions from the few documented relationships.
Table 5: Logistic regression analyses of different qualitative characteristics. Odds ratios. Only lifetime users.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No use last 12 months (ref.)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Use 1-2 times last 12 months</td>
<td>0.64</td>
<td>0.62</td>
<td>0.48***</td>
<td>0.45**</td>
<td>0.71</td>
<td>0.66</td>
<td>0.97</td>
<td>0.99</td>
<td>2.19*</td>
<td>2.18*</td>
</tr>
<tr>
<td>Use 3-9 times last 12 months</td>
<td>0.77</td>
<td>0.70</td>
<td>0.21***</td>
<td>0.21***</td>
<td>0.67</td>
<td>0.61</td>
<td>0.51</td>
<td>0.98</td>
<td>2.66**</td>
<td>2.67***</td>
</tr>
<tr>
<td>Use more than 10 times last 12 months</td>
<td>0.82</td>
<td>0.72</td>
<td>0.20***</td>
<td>0.19***</td>
<td>1.90</td>
<td>1.60</td>
<td>0.32</td>
<td>0.56</td>
<td>8.16***</td>
<td>9.20***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>1.22</td>
<td>1.28</td>
<td>1.23</td>
<td>1.28</td>
<td>1.40</td>
<td>1.56</td>
<td>1.62</td>
<td>0.99</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>0.73</td>
<td>0.98</td>
<td>0.96</td>
<td>1.40</td>
<td>1.40</td>
<td>1.56</td>
<td>1.62</td>
<td>0.99</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>0.65</td>
<td>1.37</td>
<td>0.79</td>
<td>1.08</td>
<td>1.08</td>
<td>1.56</td>
<td>1.62</td>
<td>0.99</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>Drug education in school</td>
<td>2.01**</td>
<td>1.08</td>
<td>0.71</td>
<td>1.02</td>
<td>1.02</td>
<td>1.56</td>
<td>1.62</td>
<td>0.99</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>last 12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Binge-drinking at least once a month last 12 months</td>
<td>0.95</td>
<td>1.28</td>
<td>1.09</td>
<td>0.99</td>
<td>0.99</td>
<td>0.87</td>
<td>0.99</td>
<td>0.99</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.07</td>
<td>0.11</td>
<td>0.15</td>
<td>0.04</td>
<td>0.06</td>
<td>0.04</td>
<td>0.05</td>
<td>0.15</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>417</td>
<td>417</td>
<td>416</td>
<td>416</td>
<td>412</td>
<td>412</td>
<td>418</td>
<td>418</td>
<td>406</td>
<td>406</td>
</tr>
</tbody>
</table>

*** p<0.001, ** p< 0.01, *p<0.05

1= fairly likely, likely and very likely, 0= fairly unlikely, unlikely and very unlikely
2= fairly small, small, and very small ability to control risks, 0= fairly large, large and very large ability to control risks.
3= fairly unknown, unknown and very unknown to science, 0= fairly well-known, well-known and very well-known to science
4= fairly unknown, unknown and very unknown personally, 0= fairly well-known, well-known and very well-known personally
5= fairly insignificant, insignificant and very insignificant harm, 0= very serious, serious and fairly serious harm
Table 5:10 continued.

<table>
<thead>
<tr>
<th></th>
<th>Low trust in risk information from school\textsuperscript{f}</th>
<th>Low trust in research findings about risks\textsuperscript{g}</th>
<th>Afraid of risks (‘dread reaction’\textsuperscript{h})</th>
<th>Risks novel\textsuperscript{i}</th>
<th>Negative consequences immediate\textsuperscript{j}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No use last 12 months (ref.)</td>
<td>2.08***</td>
<td>2.17***</td>
<td>2.24**</td>
<td>2.64***</td>
<td>0.35***</td>
</tr>
<tr>
<td>Use 1-2 times last 12 months</td>
<td>1.28</td>
<td>1.28</td>
<td>1.03</td>
<td>1.09</td>
<td>0.48**</td>
</tr>
<tr>
<td>Use 3-9 times last 12 months</td>
<td>1.92*</td>
<td>1.93*</td>
<td>1.61</td>
<td>1.57</td>
<td>0.36***</td>
</tr>
<tr>
<td>Use more than 10 times last 12 months</td>
<td>6.11***</td>
<td>6.49***</td>
<td>3.26***</td>
<td>3.22***</td>
<td>0.21***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td>1.04</td>
<td>1.94</td>
<td>1.28</td>
<td>2.42</td>
<td></td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>0.73</td>
<td>0.83</td>
<td>1.30</td>
<td>2.65</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>1.28</td>
<td>0.59</td>
<td>0.77</td>
<td>1.40</td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>0.89</td>
<td>0.43***</td>
<td>1.18</td>
<td>1.86</td>
<td></td>
</tr>
<tr>
<td>Drug education in school</td>
<td>0.82</td>
<td>0.66</td>
<td>1.19</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>last 12 months</td>
<td>0.90</td>
<td>0.63</td>
<td>1.02</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.15</td>
<td>0.16</td>
<td>0.17</td>
<td>0.17</td>
<td>0.16</td>
</tr>
<tr>
<td>n</td>
<td>416</td>
<td>416</td>
<td>418</td>
<td>418</td>
<td>418</td>
</tr>
</tbody>
</table>

\textsuperscript{f}1= not at all and not that much trust, 0= fairly much, much and very much trust
\textsuperscript{g}1= not at all and not that much trust, 0= fairly much, much and very much trust
\textsuperscript{h}1= fairly afraid, afraid and very afraid, 0= not afraid at all and not that afraid
\textsuperscript{i}1= very novel, novel and fairly novel, 0= known them for a fairly long time, known them for a long time and known them for a very long time
\textsuperscript{j}1= very immediate, immediate and fairly immediate, 0= both and, occur somewhat later and occur much later
Factor analysis of qualitative risk characteristics

Following the procedure in an US study (Benthin, Slovic & Severson, 1993), the QRC:s were subjected to a principal components factor analysis, also including the PNCI.

The analysis produced three factors together accounting for 52 percent of the variance. Overall, the findings resemble Benthin and colleagues’ findings. The variables included there differed, however, somewhat from those included here. They also included variables pertaining to e.g. perceived admiration of the activities included, peer influence and need for regulation of the included activities. However, many of the QRC:s included here were also included in their study. In their analysis, one factor was primarily determined by perceived risk (a variable fairly similar to the PNCI), fear and seriousness of consequences. Perceived controllability loaded high on that factor too.

A similar picture was found in the present study, as shown in table 5:11. However, the trust variables – variables not included in their study –load high on this factor as well. Benthin and associates preferred to call this factor ‘risk’, a label which, due to the similar profile shown here, also would apply in this study. Overall, the structure of this factor makes sense. For example, it is theoretically reasonable that to be afraid of the risks, to think that they are hard to control, to think that negative consequences are likely to occur and that they would be serious if so doing ‘hang together’ in constituting high risk perceptions.

The picture displayed by the loadings in the second factor is overall unambiguous and clearly reflects issues of how familiar the risks are judged to be. It could have been expected that QRC number 1 also should have loaded high on the familiarity factor. Yet, it is not necessarily inconsequential that it did not. People may well trust the competence of experts but may nevertheless believe that their knowledge is incomplete. In fact, this is implicit in the very notion of scientific progress, i.e. that we know enormously much at present but there is still much to be learned (cf. Sjöberg, 2000). As can be seen the item regarding the likelihood that use can lead to consequences unknown to science today, together with the item pertaining to the ‘time’ when negative consequences are perceived to occur, constitute a third factor which I chose to label ‘future’.

The fact that the ‘familiarity’ variables do not load high on the same factor as the PNCI is interesting. As noted above, several studies have shown that a low degree of perceived familiarity is usually associated with higher risk perceptions. The present results may thus suggest a somewhat different pattern for illicit drugs.
Table 5:11 Principal components factor analysis of qualitative risk characteristics and the PNCI Varimax rotation with Kaiser normalization. Only factor loadings above 0.40 are shown.

<table>
<thead>
<tr>
<th>Factor 1 'Risk'</th>
<th>Factor 2 'Familiarity'</th>
<th>Factor 3 'Future'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Likely/ unlikely that use can lead to consequences unknown for science today</td>
<td></td>
<td>0.66</td>
</tr>
<tr>
<td>2. Controllability of risks</td>
<td>-0.63</td>
<td></td>
</tr>
<tr>
<td>3. Risks well-known/ unknown for science</td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td>4. Risks well-known/ unknown personally</td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>5. Seriousness of negative consequences, should they occur</td>
<td>-0.60</td>
<td></td>
</tr>
<tr>
<td>6. Trust in risk information from school</td>
<td></td>
<td>0.66</td>
</tr>
<tr>
<td>7. Trust in risk research findings</td>
<td></td>
<td>0.59</td>
</tr>
<tr>
<td>8. Afraid/ not afraid of risks</td>
<td></td>
<td>0.72</td>
</tr>
<tr>
<td>9. Risks novel/ known them for a long time</td>
<td></td>
<td>0.64</td>
</tr>
<tr>
<td>10. Negative consequences immediate/occur later PNCI</td>
<td></td>
<td>0.68</td>
</tr>
<tr>
<td>Variance explained</td>
<td>25</td>
<td>17</td>
</tr>
</tbody>
</table>
Beliefs about negative sides of illicit drug use

Risk perceptions of different illicit substances

In this section, I go more into detail and examine risk perceptions of three selected illegal substances: hash/marijuana (cannabis) heroin and ecstasy. Cannabis is usually referred to as the lightest illegal drug, heroin as the hardest whereas ecstasy is a typical party-drug. The questions utilized here also cover frequency of consumption, i.e. use one or a couple of times, use occasionally and use regularly.

Table 5:12. Correlations (Pearson's r) between risk perceptions of three different substances and frequency of consumption.

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hash/ marijuana one or a couple of times</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Hash/ marijuana occasionally</td>
<td>.82</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Hash/ marijuana regularly</td>
<td>.56</td>
<td>.77</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Heroin one or a couple of times</td>
<td>.42</td>
<td>.46</td>
<td>.48</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Heroin occasionally</td>
<td>.32</td>
<td>.48</td>
<td>.59</td>
<td>.85</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Heroin regularly</td>
<td>.20</td>
<td>.39</td>
<td>.62</td>
<td>.60</td>
<td>.80</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Ecstasy one or a couple of times</td>
<td>.56</td>
<td>.58</td>
<td>.52</td>
<td>.66</td>
<td>.60</td>
<td>.45</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Ecstasy occasionally</td>
<td>.43</td>
<td>.58</td>
<td>.64</td>
<td>.65</td>
<td>.74</td>
<td>.66</td>
<td>.85</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9. Ecstasy regularly</td>
<td>.26</td>
<td>.44</td>
<td>.67</td>
<td>.60</td>
<td>.74</td>
<td>.84</td>
<td>.57</td>
<td>.78</td>
<td>1</td>
</tr>
</tbody>
</table>

All correlations significant at p<0.001

Table 5:12 shows that, overall, the different items are fairly strongly related to each other. The majority of the correlations exceed 0.50. There are two exceptions, however. The correlations between ‘hash/marijuana one or a couple of times’ and ‘heroin regularly’ and between ‘hash/marijuana one or a couple of times’ and ‘ecstasy regularly’ are below 0.30 indicating a weaker, yet significant, relationship. Given that these two should be considered, the results generally indicate that if people think that use of one type of substance poses a very great risk of harm, they tend to think that the use of other substances will do so too.

Moreover, it is evident that the respondents do not make that strong distinctions when it comes to frequency of consumption regarding the same substance. For example, the correlation between ‘hash/marijuana one or a couple of times’ and ‘hash/ marijuana regularly’ is 0.56, between ‘heroin one or a couple of times’ and ‘heroin regularly’ it is 0.60 and between ‘ecstasy one or a couple of times’ and ‘ecstasy regularly’ it is 0.57. The tendency for young Swedes to make similar risk judgments across several substances has
been shown elsewhere as well (Guttormsson, Andersson & Hibell, 2004). In that study, the mean risk scores for using amphetamine, cocaine, solvents and ecstasy one or two times was almost the same. The mean risk scores for using these substances regularly, together with marijuana/hash at the same frequency level, were almost the same too. Another study has shown that almost the exact proportion among a sample of Swedish students attending second year in upper secondary school reported that regular use of LSD, amphetamine and ecstasy would pose great risk of harm (Rask, 2004).

These studies also showed that overall, the included substances at given use levels were perceived as rather risky. This was largely confirmed in this study. The only item for which less than a majority stated at least fairly large risk was for marijuana/hash one or a couple of times (44 percent). For example, 87 percent state that marijuana/hash regularly pose at least fairly large risk and 95 percent state that heroin regularly and ecstasy regularly would pose at least a fairly large risk.

As discussed in chapter 4, the measuring of perceptions and expectancies is likely hampered by the tendency that illicit drug experienced individuals hold more differentiated beliefs about different substances than what individuals without such experience do. In cases where both experienced and inexperienced individuals are to be included, I identified something of a ‘methodological predicament’. Researchers has to choose between detailed questions more suitable for the former group than for the latter group, or more general dittos more suitable for the latter group than for the former.

In order to further elaborate on this issue, correlations between the substance specific items were computed for respectively group separately. The findings are presented in table 5:13. All correlations are by and large quite strong to strong among the illicit drug inexperienced group. This indicates that these individuals do not discriminate that much between different substances and frequency of use. As to the illicit drug experienced, although significant, several of the correlations are quite small. For example, the correlation between hash/marijuana one or a couple of times and heroin regularly is 0.14.
Table 5:13. Correlations (Pearson’s r) between risk perceptions of three different substances and frequency of consumption. Separate analyses for illicit drug experienced and illicit drug inexperienced. The left-hand triangle refers to illicit drug experienced; the right-hand triangle to illicit drug inexperienced.

<table>
<thead>
<tr>
<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>1. Hash/marijuana one or a couple of times</td>
<td>.81</td>
<td>.53</td>
<td>.49</td>
<td>.37</td>
<td>.24</td>
<td>.58</td>
<td>.45</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>2. Hash/marijuana occasionally</td>
<td>.75</td>
<td>.75</td>
<td>.56</td>
<td>.57</td>
<td>.46</td>
<td>.60</td>
<td>.63</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>3. Hash/marijuana regularly</td>
<td>.45</td>
<td>.73</td>
<td>.53</td>
<td>.66</td>
<td>.72</td>
<td>.54</td>
<td>.68</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>4. Heroin one or a couple of times</td>
<td>.25</td>
<td>.28</td>
<td>.35</td>
<td>.85</td>
<td>.61</td>
<td>.70</td>
<td>.70</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>5. Heroin occasionally</td>
<td>.23</td>
<td>.35</td>
<td>.46</td>
<td>.86</td>
<td>.81</td>
<td>.63</td>
<td>.78</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>6. Heroin regularly</td>
<td>.14</td>
<td>.27</td>
<td>.45</td>
<td>.59</td>
<td>.80</td>
<td>.49</td>
<td>.70</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>7. Ecstasy one or a couple of times</td>
<td>.39</td>
<td>.41</td>
<td>.39</td>
<td>.54</td>
<td>.53</td>
<td>.38</td>
<td>.85</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>8. Ecstasy occasionally</td>
<td>.31</td>
<td>.44</td>
<td>.52</td>
<td>.53</td>
<td>.64</td>
<td>.55</td>
<td>.83</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>9. Ecstasy regularly</td>
<td>.15</td>
<td>.34</td>
<td>.54</td>
<td>.46</td>
<td>.64</td>
<td>.74</td>
<td>.50</td>
<td>.74</td>
<td></td>
</tr>
</tbody>
</table>

All correlations significant at p<0.001 in respectively group except 1 vs. 6 among illicit drug experienced individuals (p<0.01).

Significant differences between illicit drug inexperienced and illicit drug experienced individuals in 31 of 36 pairs of correlations. 5 differences significant at p<0.05 (1 vs. 3; 1 vs. 6; 6 vs. 7; 7 vs. 9; 8 vs. 9), 6 differences significant at p<0.01 (1 vs. 2; 1 vs. 5; 1 vs. 8; 1 vs. 9; 4 vs. 9; 5 vs. 7; ), 20 differences significant at p<0.001 (1 vs. 4; 1 vs. 7; 2 vs. 4; 2 vs. 5; 2 vs. 6; 2 vs. 7; 2 vs. 8; 2 vs. 9; 3 vs. 4; 3 vs. 5; 3 vs. 6; 3 vs. 7; 3 vs. 8; 3 vs. 9; 4 vs. 5; 4 vs. 7; 4 vs. 8; 5 vs. 8; 5 vs. 9; 6 vs. 7; 6 vs. 8; 6 vs. 9), No significant differences found for 2 vs. 3; 4 vs. 5; 4 vs. 6; 5 vs. 6; 7 vs. 8 | 44.

Importantly, there are significant differences between the two groups in 31 out of totally 36 pairs of correlations. There are thus significantly stronger correlations in the inexperienced group in more than 80 percent of the items included. By and large, this supports the argument advanced in chapter 4. However, even the experienced group hold somewhat similar beliefs across substances and frequency of use in several cases. This is indicated by the fact that some correlations exceed 0.70 and many 0.50 | 45. In the study by Guttormsson, Andersson and Hibell (2004) it was also shown that illicit drug experienced individuals in many cases make similar risk judgment across different substances. For example, regular use of amphetamine, cocaine, ecstasy, solvents and cocaine were judged as almost equally risky, and

---

44 Test of significant differences in correlations based on z-score conversions of r.

45 The strength of the correlations stays more or less intact in respectively group when adjusting for sex, age, country of birth, family structure, drug education in school last 12 months and frequent binge-drinking last 12 months.
so was use of these substances one or two times. However, it was also evident from their study that the risk judgments varied more in this group than it did amongst those who never have used illicit drugs. For instance, whereas the mean risk ratings varied from 2.7 to 4.0 (range 1 to 4) for the inexperienced group, amongst those who had used any time it varied between 1.9 and 4.0 and amongst those who also had used the last year it varied between 1.6 and 4.0. Yet, again, the methodological predicament identified is to be understood in relative terms. Also illicit drug inexperienced individuals make some distinctions when reporting to this kind of questions, but less so than those who have used illicit substances. Likewise, the latter group also make similar risk judgments across several substances, but to a smaller extent than the former group.

Following the procedure in the prior sections, comparisons in mean risk judgments were made by sex and experience of illicit drug use. As expected, the males have a lower mean value on all items and the differences are highly significant (p<0.001). The magnitude of the differences are stable throughout and range from -0.22 (heroin regularly) to -0.59 (hash/marijuana one or a couple of times). These findings, together with those shown above, clearly points to the conclusion that the males have a considerably lower risk perception than the females when it comes to consumption of illegal drugs.

A more surprising pattern emerge as regard the other comparison. Whereas there are large significant (p < 0.001) differences in all items pertaining to marijuana/hash (ranging from -0.94 for regularly to -1.43 for one or a couple of times) there are no significant differences in the three items pertaining to heroin or for ecstasy regularly. However, there are stable differences in the expected direction as regards using ecstasy one or a couple of times and using ecstasy occasionally (-0.65 and -0.37 each).

The absence of significant differences for some of the substance specific items by illicit drug use is particularly striking given that significant sex differences emerged for the same items. Considering that cannabis have been used by almost every illicit drug experienced individual in the sample – contrary to what is the case with the other substances – at least the findings pertaining to perceived risk of hash/marijuana might reveal a more sophisticated experience/inexperience distinction than dwelt upon in the prior sections. That most illicit drug experienced has used cannabis but not heroin would thus account for the significant differences in the former case and the lack of the same in the latter case. But what about the differences found for two of the ecstasy items as not that many (71 individuals) of the illicit drug experienced report that they have used this substance?

In order to test the hypothesis that there is not necessary experience of ecstasy use that account for the differences in perceived risk for two of the ecstasy items yet another comparison was made between non-experienced and experienced individuals, excluding those who report use of ecstasy from
Beliefs about negative sides of illicit drug use

The analysis. The result is notable in two respects. First, a highly significant difference remain for both items (−0.50 and −0.22 respectively, p<0.001). This means that perceived risk for this specific substance vary by use of illicit drugs in general, i.e. use of some illicit substance but not necessary ecstasy. This is a main difference from the questions regarding heroin where no such difference was found. Second, the magnitude of the difference decreases when ecstasy experienced respondents are excluded (0.15 scale steps in both cases).

Although these findings must be interpreted with cautiousness as the ecstasy use variable contains a large proportion of missing values, they indicate the potential of an experience/inexperience distinction at two ‘levels’. Whereas the first level relates to illicit drug use as such, the latter relates to experience of using ecstasy within the group of illicit drug experienced. The first can be referred to as a more ‘elementary’ experience level, and the latter as a sort of ‘higher-order’ experience level. The higher-order version presupposes the elementary level (i.e. have used any illicit substance) and thus only applies to individuals fulfilling this criterion. To the extent that this characteristic is valid across different illicit substances, one might expect that e.g. illicit drug users with experience of cocaine differ from illicit drug users who have not used cocaine in their risk perceptions about this substance.

The ‘higher-order experience level’: comparisons between solely cannabis experienced individuals and individuals who also have used other illicit substances

To further elaborate on the higher order level, a set of additional comparison were made within the experienced group. Those who only have used cannabis were compared to those who also have experience of other substances. It was expected that the latter group would hold lower risk perceptions. Prior research shows that individuals who have used more substances generally hold lower risk perceptions than those who have used fewer substances even when it comes to substances not tried (Fabricius, Nagoshi & MacKinnon, 1993).

A first comparison showed that individuals in the cannabis-only group have significantly higher risk perceptions than those who also have used other substances for all ecstasy items (m.d. = 0.62, p<0.001 for ecstasy one or a couple of times, m.d. = 0.71, p<0.001 for ecstasy occasionally, m.d. = 0.36, p<0.01 for ecstasy regularly). An additional comparison was made where the ecstasy experienced were excluded from the more substance experienced group. This comparison showed that the differences remain for the first item, but not significant at p<0.05 (m.d. = 0.35, p<0.1). No significant difference remained in risk perceptions pertaining to regular ecstasy use. The difference in risk perceptions for ecstasy occasionally is 0.47.
(p<0.01). This suggests that in this case, the two groups differ notably from each other.

Thus, when it comes to ecstasy items there appears to be 1) differences in risk perceptions due to level of involvement in heavier substances more generally (cannabis + some other substance lower risk perception than those who only have used cannabis) and 2) a tendency that the difference between these groups diminish if the more experienced group not has used this particular substance. The fact that there is a difference between cannabis-only experienced and those who also have experience of other substances but not ecstasy in two of the items is somewhat intriguing. This finding thus suggests a somewhat subtle higher-order experience distinction in some cases. That is, an ‘indirect’ version, as compared to a more ‘direct’ version.

Yet the picture becomes more complex when comparing the responses to the other substance specific items by the cannabis-only group and the group who also have used other substances. Unfortunately, it was not possible to make any two-step comparisons for the other two substances. Too few have used heroin and too few have not used cannabis among lifetime users. That said, the comparisons shows that there are only small non-significant differences between solely cannabis users and cannabis + some other substance users in risk perceptions of heroin use (m.d. = 0.13, 0.20 and 0.15, p>0.1 for the three items), no differences in cannabis one or a couple of times, small in cannabis occasionally (m.d. = 0.20, p<0.1) and somewhat notable significant differences in cannabis regularly (m.d. = 0.36, p<0.05). Table 5:14 gives a simple illustration of the degree to which the solely cannabis group and the cannabis + some other substance group differ in their responses to all items, also including the first comparison showed above for the ecstasy items.
Table 5:14. Schematic pattern regarding differences between solely cannabis experienced and cannabis + some other substance experienced. + signifies small significant difference, ++ signifies somewhat large significant difference, +++ signifies large significant difference, - signifies no significant difference.

<table>
<thead>
<tr>
<th>Item</th>
<th>Difference</th>
<th>Mean difference and significance level (only for + items)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis one or a couple</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>of times</td>
<td>Cannabis occasionally +</td>
<td>0.25, p&lt;0.1</td>
</tr>
<tr>
<td>Cannabis regularly        ++</td>
<td>0.37, p&lt;0.05</td>
<td></td>
</tr>
<tr>
<td>Heroin one or a couple</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>of times</td>
<td>Heroin occasionally -</td>
<td></td>
</tr>
<tr>
<td>Heroin regularly          -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecstasy one or a couple   +++)</td>
<td>0.62, p&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>of times</td>
<td>Ecstasy occasionally +++)</td>
<td>0.71, p&lt;0.001</td>
</tr>
<tr>
<td>Ecstasy regularly         ++</td>
<td>0.36, p&lt;0.01</td>
<td></td>
</tr>
</tbody>
</table>

How, then, is this pattern to be understood? As noted above, research has shown that individuals with experience of heavier substances tend to have lower risk perceptions than those with less experience (Fabricius, Nagoshi & MacKinnon, 1993). The results pertaining to ecstasy fit fairly well with this tendency. But the fact that there are no differences in the heroin items suggests that it may be limited to less heavy substances. Heroin is usually considered as the heaviest amongst the illegal substances. Few individuals in non-clinical populations have used it. That heroin is ranked as the most dangerous of substances among young illicit drug users has been shown in a recent survey (Gamma, Jerome, Liechti & Sumnall, 2005). Its heaviness and often associated negative symbolic value may hence be so large that peoples’ risk perceptions about it are indifferent to their substance use histories. Support for this comes from the finding that there are no differences even between illicit drug experienced and those without such an experience.

Conversely, the lower risk scores in the ecstasy items by those who have used cannabis and some other illicit substance may reflect the similarities between ecstasy and substances such as amphetamines and cocaine. As shown, the lower risk scores among the more experienced group remain in two of the items even when those who have used ecstasy are excluded from this group. There is some evidence that the motives for e.g. using ecstasy,
cocaine and amphetamines are similar and that when a given substance is unavailable to fulfil a function, it is sometimes replaced with an alternative substance (Boys, Marsden & Strang, 2001). Perhaps these similarities have repercussions for how risky they are perceived amongst the more substance experienced group. They may attribute characteristics experienced from a tried substance (e.g. cocaine) to a functionally equivalent not tried substance (e.g. ecstasy) but not to a functionally unequal untried substance (e.g. heroin).

However, the findings concerning cannabis simultaneously suggest that this tendency do not either necessarily have to be at hand when it comes to less severe substances. Rather, in some cases its occurrence may depend on how often a given substance is used. This is indicated by table 5:14 that shows that the differences in risk perceptions of cannabis only emerge at higher use levels. Thus at the two 'end points' at the illicit drug use spectrum, there appears to be no differences between the groups.
Beliefs about positive sides of illicit drug use

This chapter dwells upon beliefs about positive sides of illicit drug use. The arrangement is similar to arrangement in the previous chapter. The first section examines positive expectancies, as measured by a large pool of items. The second section examines to what extent illicit drug use is believed to be beneficial more generally. The utilization of many items reflects the usual arrangement in research examining expectancies and the use of the general term benefits resembles the arrangement in research exploring benefit perceptions.

Positive expectancies

Table 6:1 presents the perceived likelihood that different types of positive consequences will occur if illicit drugs would be used. Although only a small proportion believes that use very likely will lead to positive consequences, many believe that it fairly likely or likely will do so. ‘Having fun’, ‘being relaxed’ and ‘forget problems’ are the consequences perceived as relatively most likely to occur. About 75 percent states that it is fairly likely, likely or very likely that these consequences will follow use. Evidently, each of these three consequences relates to distinct dimensions. The high rate of ‘positive’ responses thus shows that use of illicit drugs may serve different purposes. ‘Feeling physical pleasure’ and ‘being less shy in the company of others’ (67 percent) are other consequences that many believe at least fairly likely will follow use. These two must be regarded as rather distinct from each other. The first concerns pleasurable experiences of use as such. The second pertains to improvement of social capabilities. To the extent these types of expectations are predictive, it is evident that the consumption of illicit drugs may be initiated on quite different grounds.
Table 6:1. Perceived likelihood that different types of positive consequences will occur from illicit drug use (n=2009-2027). Percent and mean scores.

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Not likely at all (1)</th>
<th>Not that likely (2)</th>
<th>Fairly likely (3)</th>
<th>Likely (4)</th>
<th>Very likely (5)</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling physical pleasure</td>
<td>12</td>
<td>20</td>
<td>32</td>
<td>24</td>
<td>11</td>
<td>3.01</td>
</tr>
<tr>
<td>Being more optimistic</td>
<td>15</td>
<td>26</td>
<td>31</td>
<td>21</td>
<td>7</td>
<td>2.79</td>
</tr>
<tr>
<td>Having fun</td>
<td>11</td>
<td>15</td>
<td>32</td>
<td>27</td>
<td>14</td>
<td>3.19</td>
</tr>
<tr>
<td>Being wittier and funnier</td>
<td>20</td>
<td>36</td>
<td>26</td>
<td>15</td>
<td>4</td>
<td>2.48</td>
</tr>
<tr>
<td>Get to learn someone better</td>
<td>23</td>
<td>32</td>
<td>25</td>
<td>14</td>
<td>6</td>
<td>2.46</td>
</tr>
<tr>
<td>Easier to get in contact with the opposite sex/or if homo/bisexual also the same sex</td>
<td>27</td>
<td>29</td>
<td>23</td>
<td>14</td>
<td>6</td>
<td>2.42</td>
</tr>
<tr>
<td>Being less shy in the company of others</td>
<td>14</td>
<td>19</td>
<td>33</td>
<td>22</td>
<td>11</td>
<td>2.96</td>
</tr>
<tr>
<td>Being relaxed</td>
<td>11</td>
<td>13</td>
<td>33</td>
<td>27</td>
<td>15</td>
<td>3.22</td>
</tr>
<tr>
<td>Forget problems</td>
<td>12</td>
<td>12</td>
<td>28</td>
<td>27</td>
<td>21</td>
<td>3.34</td>
</tr>
<tr>
<td>Becoming self-confident</td>
<td>17</td>
<td>22</td>
<td>28</td>
<td>21</td>
<td>12</td>
<td>2.88</td>
</tr>
<tr>
<td>Feeling group-belongings</td>
<td>21</td>
<td>26</td>
<td>29</td>
<td>16</td>
<td>8</td>
<td>2.65</td>
</tr>
<tr>
<td>Feeling friendly</td>
<td>30</td>
<td>33</td>
<td>24</td>
<td>9</td>
<td>4</td>
<td>2.26</td>
</tr>
<tr>
<td>Making sexual experiences more pleasurable</td>
<td>29</td>
<td>31</td>
<td>21</td>
<td>11</td>
<td>8</td>
<td>2.37</td>
</tr>
<tr>
<td>Feeling more attractive in front of others</td>
<td>23</td>
<td>27</td>
<td>28</td>
<td>15</td>
<td>6</td>
<td>2.54</td>
</tr>
<tr>
<td>Feeling happiness</td>
<td>22</td>
<td>21</td>
<td>29</td>
<td>19</td>
<td>11</td>
<td>2.75</td>
</tr>
<tr>
<td>Easier to show feelings</td>
<td>19</td>
<td>24</td>
<td>29</td>
<td>19</td>
<td>9</td>
<td>2.75</td>
</tr>
<tr>
<td>Improve self-knowledge</td>
<td>39</td>
<td>31</td>
<td>17</td>
<td>8</td>
<td>4</td>
<td>2.07</td>
</tr>
<tr>
<td>Being excited</td>
<td>19</td>
<td>22</td>
<td>31</td>
<td>19</td>
<td>9</td>
<td>2.78</td>
</tr>
<tr>
<td>Being less inhibited</td>
<td>19</td>
<td>19</td>
<td>30</td>
<td>19</td>
<td>13</td>
<td>2.88</td>
</tr>
</tbody>
</table>

Conversely, if the categories not likely at all and not that likely are collapsed, ‘improve self-knowledge’ is the consequence perceived to be relatively least likely to occur (70 percent), followed by ‘being friendly’ (63 percent) and
Beliefs about positive sides of illicit drug use

‘making sexual experiences more pleasurable’ (60 percent). All in all, then, it
is clear that the respondents are not indifferent to type of positive conse-
quence addressed. This reflects the findings regarding negative consequences.

In table 6:2, the proportion reporting fairly likely, likely or very likely to is
compared between the sexes and between those who have experience of
illicit drug use and those who have not. Concerning the sexes, the males per-
ceive all consequences except ‘being less inhibited’ (zero difference) as more
likely to occur than what the females do. The difference is small for many
items, however. Only 10 differences are significant. The largest significant
difference is found for ‘improve self-knowledge’ (10 percentage units),
followed by ‘becoming self-confident’ and ‘being friendly’ (8 percentage
units respectively) and ‘being relaxed’ and ‘feeling happiness’ (7 percentage
units each).

As could be expected, those who have used illicit drugs perceive all con-
sequences as more likely to occur than those with no such experience How-
ever, there are non-significant differences in three of the items. Substantial
significant differences emerge for several of the consequences. The largest
of these regard ‘having fun’, ‘being friendly’ and ‘making sexual experiences
more pleasurable’ (19 percentage units each). Other consequences where the
differences are notable are ‘being relaxed’, ‘feeling happiness’ (16 percentage
units), ‘being optimistic’ (15 percentage units) and ‘feeling physical pleasure’
(14 percentage units). Interestingly, nine in ten amongst the experienced
group state that it is fairly likely, likely or very likely that use will make them
having fun and being relaxed. All other consequences except two also falls
on the ‘likely side’ among the majority of illicit drug experienced. Here it
could be noted that amongst the illicit drug inexperienced too, as many as
12 of the included consequences are by the majority perceived as at least
fairly likely to happen. For example, 70 percent or more in this group state
that consumption at least likely would make them having fun, being relaxed
and forget problems. Interestingly, the high proportion of positive responses
to the two first of these mirrors central reasons given among illicit drug users
for consuming (Boys, Marsden & Strang, 2001; Williams & Parker, 2001).
Chapter 6

Table 6.2. Proportion reporting that different types of positive consequences fairly likely, likely or very likely will occur from illicit drug use. By sex (n=2005-2024) and experience of illicit drug use (n=2006-2025). Percent.

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Sig.</th>
<th>Exp. of illicit drug use</th>
<th>No exp. of illicit drug use</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feeling physical pleasure</td>
<td>68</td>
<td>67</td>
<td></td>
<td>78</td>
<td>64</td>
<td>***</td>
</tr>
<tr>
<td>2. Being more optimistic</td>
<td>62</td>
<td>57</td>
<td>*</td>
<td>71</td>
<td>56</td>
<td>***</td>
</tr>
<tr>
<td>3. Having fun</td>
<td>76</td>
<td>71</td>
<td>**</td>
<td>89</td>
<td>70</td>
<td>***</td>
</tr>
<tr>
<td>4. Being wittier and funnier</td>
<td>46</td>
<td>43</td>
<td></td>
<td>51</td>
<td>42</td>
<td>***</td>
</tr>
<tr>
<td>5. Get to learn someone better</td>
<td>47</td>
<td>42</td>
<td>*</td>
<td>51</td>
<td>42</td>
<td>**</td>
</tr>
<tr>
<td>6. Easier to get in contact with the opposite sex/or if homo/bisexual also the same sex</td>
<td>44</td>
<td>42</td>
<td></td>
<td>45</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>7. Being less shy in the company of others</td>
<td>68</td>
<td>65</td>
<td></td>
<td>70</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>8. Being relaxed</td>
<td>79</td>
<td>72</td>
<td>***</td>
<td>88</td>
<td>72</td>
<td>***</td>
</tr>
<tr>
<td>9. Forget problems</td>
<td>78</td>
<td>73</td>
<td>**</td>
<td>82</td>
<td>74</td>
<td>***</td>
</tr>
<tr>
<td>10. Becoming self-confident</td>
<td>65</td>
<td>57</td>
<td>***</td>
<td>66</td>
<td>59</td>
<td>**</td>
</tr>
<tr>
<td>11. Feeling group-belongings</td>
<td>55</td>
<td>52</td>
<td></td>
<td>56</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>12. Being friendly</td>
<td>41</td>
<td>33</td>
<td>***</td>
<td>52</td>
<td>33</td>
<td>***</td>
</tr>
<tr>
<td>13. Making sexual  experiences more pleasurable</td>
<td>43</td>
<td>36</td>
<td>**</td>
<td>56</td>
<td>35</td>
<td>***</td>
</tr>
<tr>
<td>14. Feeling more attractive in front of others</td>
<td>50</td>
<td>48</td>
<td></td>
<td>53</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>15. Feeling happiness</td>
<td>61</td>
<td>54</td>
<td>***</td>
<td>70</td>
<td>54</td>
<td>***</td>
</tr>
</tbody>
</table>
Beliefs about positive sides of illicit drug use

Table 6.2 continued.

<table>
<thead>
<tr>
<th></th>
<th>Easier to show</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Easier to show feelings</td>
<td>58</td>
<td>57</td>
<td>62</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>17. Improve self-knowledge</td>
<td>34</td>
<td>24</td>
<td>***</td>
<td>39</td>
<td>27</td>
</tr>
<tr>
<td>18. Being excited</td>
<td>61</td>
<td>59</td>
<td>69</td>
<td>57</td>
<td>***</td>
</tr>
</tbody>
</table>

*a* Fischer’s exact test (2-sided), *p*<0.05, **p**<0.01, ***p***<0.001

In a next step, correlations were computed between the different items. As can be seen in table 6.3, overall there are fairly strong correlations between all the items, though only a modest correlations emerge between ‘feeling physical pleasure’ and ‘improve self-knowledge’ (r = 0.27). The strongest correlation is between ‘being relaxed’ and ‘forget problems’ (r = 0.73), followed by ‘being excited’ and ‘being less inhibited’ (r = 0.69). The vast majority of the correlations are within the range of about r = 0.40 and r = 0.65. These findings show that those who believe that use may lead to positive consequences believe that it may do so in many ways. For instance, the more likely people think it is that use will make them relaxed, the more likely they think it is that use e.g. also will make them having fun, being optimistic and feeling physical pleasure. As the different positive consequences are fairly strongly correlated with each other, a composite positive consequences index might be constructed.
Table 6.3. Correlations (Pearson’s r) between positive consequences.

<table>
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<tr>
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<th>1.</th>
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<td>4. Being wittier and funnier</td>
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<td>5. Get to learn someone better</td>
<td>.62</td>
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<td>6. Easier to get in contact with opposite sex/or if homo/bisexual also the same sex</td>
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All correlations significant at p<0.001.
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<td>.62</td>
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<td>.54</td>
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<td>.64</td>
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<td>19. Being less inhibited</td>
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<td>.54</td>
<td>.57</td>
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</table>

All correlations significant at p<0.001.
To examine this potential, a principal components factor analysis was carried through. The analysis yielded two factors. Together, these account for 60 percent of the variance. A main difference from the same procedure regarding the negative consequences is that this analysis did not reveal an equally unambiguous picture. Whereas all negative consequences loaded unequivocally high on one single factor, some positive consequences have high loadings across two factors.

Table 6.4 shows that ‘feeling physical pleasure’, ‘being more optimistic’ and ‘improve self-knowledge’ have loadings above 0.40 in both factors. However, all three load higher on factor 1. As all other items have high

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling physical pleasure</td>
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<td>-.52</td>
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<tr>
<td>Being more optimistic</td>
<td>.70</td>
<td>-.41</td>
</tr>
<tr>
<td>Having fun</td>
<td>.77</td>
<td>-.30</td>
</tr>
<tr>
<td>Being wittier and funnier</td>
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<td>.01</td>
</tr>
<tr>
<td>Get to learn someone better</td>
<td>.68</td>
<td>.25</td>
</tr>
<tr>
<td>Easier to get in contact with the opposite sex/or if homo/bisexual</td>
<td>.73</td>
<td>.19</td>
</tr>
<tr>
<td>also the same sex</td>
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</tr>
<tr>
<td>Being less shy in the company of others</td>
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<td>.02</td>
</tr>
<tr>
<td>Being relaxed</td>
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<td>-.24</td>
</tr>
<tr>
<td>Forget problems</td>
<td>.74</td>
<td>-.23</td>
</tr>
<tr>
<td>Becoming self-confident</td>
<td>.81</td>
<td>.00</td>
</tr>
<tr>
<td>Feeling group-belongings</td>
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<td>.21</td>
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<tr>
<td>Being friendly</td>
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<td>.27</td>
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<tr>
<td>Making sexual experiences more pleasurable</td>
<td>.68</td>
<td>.25</td>
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<tr>
<td>Feeling more attractive in front of others</td>
<td>.79</td>
<td>.20</td>
</tr>
<tr>
<td>Feeling happiness</td>
<td>.80</td>
<td>-.04</td>
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<tr>
<td>Easier to show feelings</td>
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<td>.13</td>
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<tr>
<td>Improve self-knowledge</td>
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<td>.45</td>
</tr>
<tr>
<td>Being excited</td>
<td>.78</td>
<td>-.05</td>
</tr>
<tr>
<td>Being less inhibited</td>
<td>.73</td>
<td>-.13</td>
</tr>
<tr>
<td>Variance explained (%)</td>
<td>54</td>
<td>6.00</td>
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</table>

Chapter 6
loadings on factor 1, it seems reasonable to construct a single index based on all items. A reliability analysis showed that the internal consistency of the index is strong (Cronbach’s alpha = 0.95).

In order to make the range of the index similar to the range of the single items, each respondent’s total score were divided by 19 (total number of consequences) yielding average score within the range of 1 and 5. An average score of 1 roughly implies that positive consequences are perceived as not likely at all to occur. An average score of 5 implies that positive consequences are perceived as very likely to occur. Following the procedure in the prior chapter, further analyses only included those responding to all items (n = 1894).

The mean value for the composite perceived likelihood of positive consequences index (PPCI) is 2.72 (s.d. = 0.88). This suggests that, overall, the respondents believe that positive consequences fairly likely will follow illicit drug use. There is a small but significant difference between the sexes (men = 2.78, women = 2.65, m.d. = 0.13, p<0.001) and a more notable significant difference between illicit drug experienced and those with no such experience (experienced = 3.00, not experienced = 2.64, m.d. = 0.36, p<0.001).

To test these associations a step further, a multiple regression analysis was conducted with the PPCI as dependent variable (table 6:5). As can be seen, a small significant difference remains between the sexes when use is controlled for (model 1). Likewise, the difference between illicit drug experienced and non-experienced still remains significant, controlling for sex. The magnitude of the difference only slightly decreases when the other variables enter the equation. The differences between males and females are not large, yet existent. The differences found for the use variable remain significant. In this case too, the magnitude of the difference only slightly decreases across the models. The difference is robust and highly significant. This strongly suggests that there are substantial differences in positive expectancies between experienced and inexperienced individuals.
Table 6.5. Multiple regression analysis of the PPCI. Unstandardized coefficients and significance values.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.11**</td>
<td>0.09*</td>
</tr>
<tr>
<td>Experience of illicit drug use</td>
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<td>0.28***</td>
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<tr>
<td>≤ 17 years</td>
<td>-0.02</td>
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<td>18 years (ref.)</td>
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<td></td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>-0.16*</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>-0.04</td>
<td></td>
</tr>
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<td>Drug education in school last 12</td>
<td>0.04</td>
<td></td>
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<tr>
<td>months</td>
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<tr>
<td>Binge-drinking at least once a month</td>
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<td>0.15***</td>
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<tr>
<td>last 12 months</td>
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<tr>
<td>Constant</td>
<td>2.61***</td>
<td>2.54***</td>
</tr>
<tr>
<td>Adj. R2</td>
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<td>0.04</td>
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<td>n</td>
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<td>1701</td>
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</table>

***p<0.001, **p<0.01, *p<0.05

Interestingly, there is a positive, independent association between frequent binge-drinking and positive expectancies. This is a main difference from the case with negative expectations, where no such association was demonstrated. This indicates that negative and positive expectancies are not just opposite sides of the same coin, i.e. that the same variables are related to both but in different directions. Each dimension has some specific characteristics that the other does not have. The fact that country of birth is unrelated to positive expectancies but not to negative is further supports this. The same holds in relation to the significant association found between being older and having less positive expectancies. No significant age variations were found for the negative consequences.

Table 6.5 shows that the models only account for a small proportion of the variance in positive expectancies. Evidently, other variables are thus overlooked. Theory and empirical research provide little guidance in this regard. As described in chapter 4, sex and participation in the actual behaviour has in prior expectancy research been highlighted as very important variables. Age is sometimes mentioned too, but the influence of other variables is less known.
Separate analyses of lifetime users

In chapter 5, it was shown that level of involvement last 12 months among lifetime users is negatively associated with negative expectancies. It was expected that the inverse pattern would be found when it comes to the positive consequences.

A first check showed that those who have not used during the last 12 months score significantly lower on the PPCI than those who have used at least 1 time (md. = 0.39, p<0.001). The group consisting of the heaviest users last 12 months (at least 10 times) score substantially higher than the other user groups (ranging from 1 to 9 times last 12 months) (md. = 0.38, p<0.001).

In a next step, a multiple regression analysis was conducted utilizing four categories pertaining to frequency of use. Table 6:6 shows that there is a clear linear-like association between level of involvement last 12 months and positive expectancies throughout both models. Unexpectedly, there is no association between the PPCI and sex among lifetime users. This is a difference from the analysis of the whole sample. This is also a main difference from what was found in the analyses of perceived negative consequences within this group. Again, this suggests that positive expectancies are not just to consider as reversed negative consequences. That no significant association was detected for country of birth, contrary to what was found in the other analysis, further points in this direction.

46 A separate regression analysis of the illicit drugs inexperienced revealed a significant difference between the sexes (b = 0.13, p<0.01), including the other variables in the equation, i.e. the males score higher on the PPCI.
Table 6.6. Multiple regression analysis on the PPCI. Unstandardized coefficients and significance values. Only life-time users of illicit drug included.

<table>
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<th>Model 1</th>
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<td>Male</td>
<td>-0.05</td>
<td>-0.05</td>
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<tr>
<td>No use last 12 months</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Use 1-2 times last 12</td>
<td>0.25*</td>
<td>0.21*</td>
</tr>
<tr>
<td>Use 3-9 times last 12</td>
<td>0.48***</td>
<td>0.44***</td>
</tr>
<tr>
<td>Use more than 10 times</td>
<td>0.71***</td>
<td>0.67***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td></td>
<td>0.16</td>
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<tr>
<td>18 years (ref.)</td>
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<tr>
<td>Born in Sweden</td>
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</tr>
<tr>
<td>Lives with both parents</td>
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<td>Drug education in school</td>
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</tr>
<tr>
<td>Binge-drinking at least</td>
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<td></td>
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<tr>
<td>12 months</td>
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<tr>
<td>Constant</td>
<td>2.76***</td>
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<td>Adj. R²</td>
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***p<0.001, *p<0.05

**Perceived benefits**

In order to further elaborate on beliefs about positive sides, a question was utilized that explicitly addressed the respondents’ views about the extent to which illicit drug use can bring about benefits for them personally. An advantage of this question is that it allows the respondents to take into account idiosyncratic benefits, no matter what they might be. Whereas the predetermined items might suggest consequences not so often thought of, this version allows for a valuation of the personal significance of consuming. Although it is not possible to know what these benefits may be, the responses to this question provide information not possible to detect from the responses to the predetermined items47.

47 As Critchlow Leigh (1989) have remarked in her review of alcohol expectancy research, consequences of the type included above may be seen as desirable by some respondents but not by others. She exemplifies with items such as ‘drinking increases male aggressiveness’, ‘I become lustful when I drink’, and ‘women talk more after a few drinks’ which all are included as desirable changes in the previously mentioned alcohol expectancy questionnaire (AEQ). Whether these items are viewed as positive or not depends
Somewhat divergent from the above findings, many respondents state that illicit drug use only to a limited extent can bring about benefits for them; 25 percent state 'not at all', 20 percent 'to a small extent' and 21 percent 'to a fairly small extent'. Only about 8 percent respond 'to a great extent' and an even smaller share responds 'to a very great extent' (4 percent). However, more than 1 in 5 state that use 'to a fairly great extent' can bring about benefits for them. Thus slightly less than 35 percent state that use at least 'to a fairly great extent' can result in benefits.

Table 6.7. Proportion responding that illicit drug use ‘to a fairly great extent’, ‘to a great extent’ or ‘to a very great extent’ can bring about benefits for them. By sex (n=2055) and experience of illicit drug use (n=2055).

<table>
<thead>
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<th></th>
<th>Men</th>
<th>Women</th>
<th>Sig*</th>
<th>Experience of illicit drug use</th>
<th>No experience of illicit drug use</th>
<th>Sig*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No experience</td>
<td>40</td>
<td>27</td>
<td>***</td>
<td>54</td>
<td>28</td>
<td>***</td>
</tr>
<tr>
<td>Experience of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>illicit drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Fischer’s exact test (2-sided), ***p<0.001

Following the arrangement above, in the next step the proportion reporting one of these three response alternatives by sex and experience of illicit drug use were compared. Table 6.7 shows that there is a significantly larger proportion of men who state that illicit drug use can lead to benefits for them. This resembles the findings into positive expectancies. In the same vein, there is a significant difference between the proportions of experienced and non-experienced stating that illicit drug use can be beneficial. The magnitude of the difference is dramatic – 26 percent units in difference. Moreover, a check of the groups’ means in the original six-step scale gives additional confirmation that the differences are substantial (men = 2.97, women = 2.62, m.d. = 0.35, p<0.001, illicit drug experienced = 3.52, not experienced = 2.59, m.d. = 0.92, p<0.001). However, the fact that almost one in three amongst the illicit drugs inexperienced state that use at least to a fairly great extent would be beneficial must be regarded as noteworthy.

on whether one ascribe desirability to aggressive men, talkative women and one’s own lustfulness (Critchlow Leigh, 1989). The same could also be said about e.g. using illicit drugs as a means of forgetting problems. Conversely, to explicit ask about the personal benefits of using implies by necessity that it is only desirable outcomes that are taken into account.
A logistic regression analysis was conducted to further test the strength of these associations (see table 6:8). Following the arrangement in table 6:7, the categories ‘to a fairly great extent’, ‘to a great extent’ and ‘to a very great extent’ was collapsed into one category (coded as 1). The remaining categories were collapsed into another category and coded as 0.

Model 1 shows that the males have 70 percent higher odds than the females for stating that illicit drug use at least to a fairly great extent can lead to benefits, controlling for illicit drug use experience. Those who have used illicit drugs have 175 percent higher odds than the non-experiences believing the same when the influence of sex is held constant. As can be seen in model 2, when the other variables are entered the magnitude of the odds only slightly decreases.

Those who have been frequent binge drinkers during the last 12 months are substantially more likely than those who have not been doing so for stating that illicit drug use can be personally beneficial. Therefore, contrary to the opposite side, frequent binge-drinking appears to be a variable of importance when it comes to the positive sides of use.


<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1.70***</td>
<td>1.64***</td>
</tr>
<tr>
<td>Experience of illicit drug use</td>
<td>2.75***</td>
<td>2.66***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td>0.91</td>
<td></td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>0.56***</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>Drug education in school last 12 months</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>Binge-drinking at least once a month last 12 months</td>
<td>1.50***</td>
<td></td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.08</td>
<td>0.10</td>
</tr>
<tr>
<td>n</td>
<td>1831</td>
<td>1831</td>
</tr>
</tbody>
</table>

***p<0.001, **p<0.01, *p<0.05

Separate analyses of lifetime users

It was expected that level of involvement last 12 months among the experienced group would be positively associated with perceived benefits. This
Beliefs about positive sides of illicit drug use

Expectation was not only informed by the prior analyses among lifetime users. It was also informed by studies showing that heavier drinkers have higher benefit perceptions than those with less drinking experience (e.g., Goldberg, Halpern-Felsher & Millstein, 2002).

In a first step, means were compared between those who have not used the last 12 months with those who have. The comparison showed that the abstainers have substantially lower benefit perceptions than the other group (m.d. -0.87, p<0.001). A comparison between the group of heaviest users last 12 months (10 times or more) and the group of individuals who had used between 1 and 9 times revealed an even more dramatic difference (m.d. = 1.15, p<0.001).

A logistic regression analysis was conducted including four categories of frequency of use. Table 6:9 gives the results. Benefit perceptions vary greatly between individuals with different levels of illicit drugs involvement last 12 months. Although the difference between use one or two times and no use is insignificant, it is significant between no use and use more frequently. Indeed, the use > 10 times group has a dramatically higher odds for believing that illicit drug use can be beneficial. This group's odds is more than ten times higher than the no use group's. The magnitude of the odds differs greatly from the group that has used 3 to 9 times as well.

Reflecting the findings regarding positive expectancies among lifetime users, table 6:9 shows that no significant associations were found for sex. This in contrast to the regression models including the whole sample, where such a difference was detected. Although not significant, the direction of the association between frequent binge-drinking last 12 months and perceived benefits of illicit drug use reflects the findings shown in the analysis of the whole sample.

48 In a separate analysis including only the illicit drug inexperienced, it was found that the males have a significantly higher odds (OR = 1.77, p<0.001) than the females for stating that use at least to some extent can be personally beneficial.
Table 6.9: Logistic regression analyses of perceived benefits of illicit drug use. Odds ratios. Only lifetime users of illicit drugs are included

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1.18</td>
<td>1.19</td>
</tr>
<tr>
<td>No use last 12 months</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Use 1-2 times last 12 months</td>
<td>1.57</td>
<td>1.51</td>
</tr>
<tr>
<td>Use 3-9 times last 12 months</td>
<td>4.61***</td>
<td>4.62***</td>
</tr>
<tr>
<td>Use more than 10 times last 12 months</td>
<td>12.33***</td>
<td>13.68***</td>
</tr>
<tr>
<td>≤ 17 years</td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td>18 years (ref.)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>≥ 19 years</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Born in Sweden</td>
<td>1.95</td>
<td></td>
</tr>
<tr>
<td>Lives with both parents</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Drug education in school last 12 months</td>
<td>0.66</td>
<td></td>
</tr>
<tr>
<td>Binge-drinking at least once a month last</td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td>12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.19</td>
<td>0.22</td>
</tr>
<tr>
<td>n</td>
<td>415</td>
<td>415</td>
</tr>
</tbody>
</table>

***p<0.001, **p<0.01, *p<0.05

Analyses including both negative and positive consequences

Beliefs about positive and negative sides of use have so far been treated separately. This choice has not been accidental. In chapter 3, I tried to show that the themes revolving around the concepts of risk and pleasure are evident themes in contemporary societies. However, they have often been discussed separately. Whereas e.g. Beck (1992) thoroughly sketches the features of the risk society, he has less to say about issues related to pleasure. Likewise, e.g. Bell (1976) carefully discusses the latter, but largely leaves aside risk. This remark is not intended as critique; it would probably be unreasonable to demand that these scholars should include both themes in their theoretical buildings. But the fact that each of these two themes has tended to be discussed separately implies that it is hard to theoretically grasp the relation between them.

The choice has been empirically derived too. Studies show that benefits and risks represent distinct constructs (see Fromme, Katz & Rivet, 1997)

This is supported by the current study. The perceived negative consequences index (PNCl) is only weakly correlated ($r = -0.10$, $p<0.01$) with the
Beliefs about positive sides of illicit drug use

perceived positive consequences index (PPCI). Moreover, a factor analysis including all positive and negative consequences item showed that positive and negative consequences constitute two different dimensions (not shown). No positive and negative items load high on the same factor. Thus, beliefs about one side appear to be quite unrelated to beliefs about the other side. This suggests that positive and negative expectancies of illicit drugs may be independently related with use.

A logistic regression analyses was conducted to test this potential, treating lifetime use as the outcome. While the study throughout treat ‘beliefs variables’ as outcomes, this arrangement does not allow for tests of independent associations between beliefs about positive and negative sides and use. To make such a comparison, perception variables need to be entered as independent variables simultaneously. This makes it possible to examine the ‘effect’ for each adjusting for the ‘effect’ of the other.

The first model only included the PNCI and the PPCI, whereas model 2 added sex and the other variables. Table 6:10 shows that both the PNCI and the PPCI are independently related to involvement in illicit drug use. The strength of the associations stays intact across the models. The odds for having used illicit drugs decrease with 53 percent for one unit increase in the PNCI, controlling for the PPCI and the other variables. Likewise, the odds for having used illicit drugs increase with 44 percent for one unit increase in the PPCI, controlling for the PNCI and the other variables. Hence, the associations detected throughout this study between positive and negative perceptions and illicit drug use are robust.

Table 6:10. Logistic regression analysis of lifetime use of illicit drugs. Odds ratios.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNCI</td>
<td>0.47***</td>
<td>0.47***</td>
</tr>
<tr>
<td>PPCI</td>
<td>1.54***</td>
<td>1.44***</td>
</tr>
<tr>
<td>Control variables (model 2 only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.15</td>
<td>0.32</td>
</tr>
<tr>
<td>n</td>
<td>1634</td>
<td>1634</td>
</tr>
</tbody>
</table>

* Sex, age, country of birth, family structure, drug education last 12 months and frequent binge-drinking last 12 months

Several of the other variables are significantly associated with experience of illicit drug use, which is indicated by a notable increase in the pseudo R². For example, not living with both parents and being born in Sweden increase the odds for having used illicit drugs. Those aged 19 years or older are also
significantly (p<0.001) more likely to have used illicit drugs than those aged 18. These findings are in line with what was expected.

However, those aged 17 or less are also significantly (p<0.05) more likely than those aged 18 for having used illicit drugs. This is contrary to what was initially expected, i.e. experience of use increases usually with age among young people. Although this study does not so much concern variations in illicit drug use as variations in perceptions – which mean that these associations will not be thoroughly discussed here – a note on this intriguing finding should nevertheless be made. As the respondents were not sampled based on their age but on attending third year in upper secondary school, this may not reflect a ‘true’ age effect. It may be so that those aged 17 years or younger posit specific characteristics not possible to detect in available data. They may differ in certain respects from individuals in same age attending lower classes. If correct, this would imply that the associations found are spurious. It can be speculated that they are more academically competent than their counterparts attending second year (i.e. other 17-year-olds). This may impact on illicit drug use for some unknown reason. The absence of variables capturing these potential characteristics could perhaps ‘explain’ the sometimes unexpected age effects found in the other analyses as well. Some analyses have shown curvilinear associations with age, a pattern which there exist no reasons to expect. Age effects found in perception variables have usually been linear (e.g. Goldberg, Halpern-Felsher & Millstein, 2002).

The pattern documented in table 6:10 was confirmed in analyses among life-time users (not shown). In this analysis, the PNCI and the PPCI were entered as ‘predictors’ for having used illicit drugs more than ten times last 12 months. Strong independent ‘effects’ were found for both these. The odds for having used illicit drugs more than 10 times last year decrease with 55 percent for one unit increase in the PNCI adjusting for PPCI and the controls. Likewise, the odds increase with as much as 170 percent for one unit increase in the PPCI adjusting for PNCI and control variables. Associations found are highly significant (p<0.001). No significant associations were demonstrated for the control variables, but the direction of the associations is in line with the pattern found among the whole sample.

The balance between perceived risks and benefits

The prior analysis showed that both the perceived negative and positive sides are distinctly related to illicit drug use. The balance between these two dimensions has been left aside, however. The theoretical importance of this aspect is emphasized in the decision making literature. All things equal,
Beliefs about positive sides of illicit drug use

individuals who believe that the benefits are larger than the risks are more likely to engage in risky behaviours than those who believe that the risks outweigh the benefits (see e.g. Millstein & Halpern-Felsher, 2002).

A comparison of the scores on the PNCI and the PPCI, which both has been shown separately above, suggests that on average negative consequences are seen as more likely to occur than positive consequences. Whereas the average score on the PNCI is 3.78 on the PPCI it is 2.71. The difference must be regarded as substantial, i.e. it is larger than one scale step.

To get a more thorough view of this issue, additional analyses were made regarding the responses to yet another question. This explicitly addressed the perceived balance between the risks and benefits associated with illicit drug use. The respondents were instructed to consider all personal risks and benefits simultaneously and to state which of these dimensions that they considered to be greatest.

Table 6:11 shows the responses by the whole sample. All response categories pertaining to risk being greater than benefits have been collapsed into one category, and so have all response categories regarding the opposite view. The table shows a very clear pattern: the vast majority of respondents view the risks as greater than the benefits. Less than 1 out of 10 states that the benefits outweigh the risks. The same proportion states that risks and benefits are equally great. Here it could be noted that among the group stating that risks are greater, 64 percent state that they are much greater than the benefits. Likewise, among the group stating that the benefits are greater, only 24 percent state that they are much greater.

Table 6:11. The balance between perceived risks and benefits of illicit drug use (n=2055). Percent

<table>
<thead>
<tr>
<th></th>
<th>Risks greater&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Risks and benefits equally great</th>
<th>Benefits greater&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>84</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes the response categories ‘risks much greater’, ‘risk greater’ and ‘risks somewhat greater’

<sup>b</sup> Includes the response categories ‘benefits much greater’, ‘benefits greater’ and ‘benefits somewhat greater’

Although greater than expected, these differences point in the same direction as shown in some prior studies exploring the balance between perceived risks and benefits of risky behaviours (Ben-Zur & Reshef-Kfir, 2003; Virgili, Owen & Severson, 1991).

However, studies applying this arrangement have shown that the perceived balance between risks and benefits varies by involvement in the
behaviours (Benthin, Slovic & Severson, 1993; Virgili, Owen & Severson, 1991). As already shown, the illicit drug experienced score lower on the PNCI. The difference between the negative and the positive index is 0.31 in this group, and 1.29 among the inexperienced. Relative to the other group, experienced individuals thus believe that they have more to gain and less to lose from use. When this comparison is made regarding the balance question, a similar pattern emerges. This is shown in table 6:12 together with a comparison between the sexes, the latter also confirms the findings regarding differences in the perception indexes. As expected based on the findings above, there is a larger difference between illicit drug users and nonusers than there is between the sexes. However, even the latter difference is notable. Although these comparisons yielded clear differences it must be stressed that even among those who have used illicit drugs, the majority state that the risks are greater than the benefits. Moreover, only 1 in 5 states that the benefits are greater. Thus, it would be safe to say that even these individuals, overall, are aware about the risks.

Table 6:12. The balance between perceived risks and benefits. By illicit drug use (n=2055) and sex (n=2055). Percent.

<table>
<thead>
<tr>
<th></th>
<th>Risks greater&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Risks and benefits equally great</th>
<th>Benefits greater&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illicit drug experienced&lt;sup&gt;a&lt;/sup&gt;</td>
<td>64</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Not illicit drug experienced&lt;sup&gt;b&lt;/sup&gt;</td>
<td>90</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Male&lt;sup&gt;b&lt;/sup&gt;</td>
<td>79</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Female&lt;sup&gt;b&lt;/sup&gt;</td>
<td>90</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

<sup>a</sup>Differences significant at p<0.001 (Chi-2 test)
<sup>b</sup>Differences significant at p<0.001 (Chi-2 test)

A logistic regression analyses was conducted estimating the odds for stating that benefits are larger than risks (not shown). The analysis showed that the differences shown in table 6:12 remain clearly significant when the controls are entered. The males have more than 100 percent higher odds than the females for stating that the benefits are greater than the risk (OR = 2.14, p<0.001). The illicit drug experienced have more than 400 percent higher odds (OR = 5.10, p<0.001) than those without such experience for also doing so. Interestingly, those living with both parents are significantly less likely (OR = 0.67, p<0.05) than those with another family structure for stating that the benefits are larger than the risks. No other significant associations were found.
An additional logistic regression analysis including only the illicit drug experienced further showed that the odds for stating that the benefits are greater than the risks increase steadily with frequency of use last 12 months, controlling for the other variables (not shown). The group that had not used the last year served as the omitted reference category (i.e. OR = 1). The odds for the 1 or 2 times group is 3.1 (p<0.01), for the 3 to 9 times group it is 5.37 (p<0.001) and for the more than 10 times group it is 13.3 (p<0.001). Indeed, the latter group differ dramatic from those who did not use the last year. Taken together with the prior analyses, it would be safe to say that there are strong motives for consuming illicit drug in this group.
Chapter 7

Concluding discussion

This last chapter highlights conclusions and implications that can be drawn from previous chapters. After a review of central arguments, I discuss the results from the empirical study and continue with suggestions of ways to interpret these. Thereafter potential implications for drug prevention are considered. The chapter ends with suggestions for further research. I emphasize the need for methodological research regarding how to best go ahead in measuring beliefs about illegal substance use. In a final remark, I argue for a synthesis of two lines of research and the gains that would follow thereof.

A brief recapitulation

In chapter 1 it was pointed out that there is much to gain in adjusting drug preventive efforts to the starting point of the target audience. At current, the literature largely focuses on implementation and dissemination of evidence-based programmes. Far less attention is paid to this type of issues.

While there is much more to this topic, I have argued that the themes of risk and pleasure are very crucial to pay notice to. However, I have tried to show that they are so in different ways. Risk is a very central concept in the drug prevention field. Pleasure is very peripheral. Most drug education in school provides risk information regarding illicit and other drug use. There are few examples where attempts are made to counteract young people’s positive images.

The risk theme was approached from an angle influenced by an equally basic as important tenet advanced by Fishbein and Ajzen (1975). This asserts that if people already hold the belief that is conveyed, there is little room left for a change to take place. There is empirical support for how important it is that the risk information provided conveys something not already known. A very strong correlation ($r = 0.88$) has been documented between perceived effectiveness of anti-drug massages and a feeling that something new has been learned (Fishbein, Hall-Jamieson, Zimmer, von Haefen & Nabi, 2002).
By situating the basic assumption underlying risk information in a risk society context I tried to show that the room left to change for risk information probably is restricted. The accounts provided by risk scholars seldom focus on illicit drugs, but these constitute a crucial signpost regarding how to think about this assumption at current. Corroborating this, recent studies show that adolescents consider themselves well-informed about risky behaviours (Rodham, Brewer, Mistral & Stallard, 2006; Tilleczek & Hine, 2006). In the study by Rodham and associates, participants stressed that it was virtually impossible to be unaware of the risks associated with behaviours such as illicit drug use. A prominent role was assigned to the school. Participants used the phrase ‘drummed into you’ to highlight how much risk information they have received there.

However, chapter 3 also identified some counter tendencies as to this. While it seems unlikely that young people are unaware of the risks, many apparently disagree with official views about how large these are. They may think that there are risks involved but that these are not as large as being taught in school. This is for example illustrated in a recent study exploring how recreational users think about the risks of illicit drugs (Korsdal Sørensen, 2005).

The discussion about pleasure called attention to an aspect that hardly ever is considered in the drug prevention area. This discussion was also framed by Fishein and Ajzen’s (1975) tenet, albeit in a different manner. There are reasons to think that there often is a strong link between illicit drug use and pursuits of pleasure. This indicates a potential target for prevention to address, i.e. a room for change. Despite this, motives considered hardly ever relate to pleasure. Adolescent substance use may be understood as the result of poor self-image but not as being due to search for enjoyment. There is a great correspondence between drug prevention practice and risk factor research in this respect (cf. Rhodes et al, 2003). Worth noting is that this ‘conceptual lacuna’ (Duff, 2004, p. 391) is not unique for drug prevention. Coveney and Bunton (2003), in focusing on the broad field of public health, conclude that ‘pleasure is so integral to the challenges of public health, it is surprising that there is not more empirical or theoretical literature on the topic’ (p. 174). In drawing upon some versions of contemporary social theory and the literature on recreational drug use, I attempted to show the importance of paying attention to the pleasure theme in designing interventions appropriate for contemporary youths. It was argued that if only addressing peer pressure, poor social skills, inadequate knowledge about drugs and the like, prevention fails to acknowledge an important aspect.
The empirical study
– a sum up of central findings

Framed by these themes, the empirical study explored beliefs about negative and positive sides of illegal substance use. The data used was based on a sample of 2104 individuals attending third year in upper secondary school in the greater Stockholm area. The instrument included questions utilized both by research focusing on expectancies and research into risk- and benefit perceptions. In the following, negative expectancies and risk perceptions are called negative beliefs when discussed together. Likewise, positive beliefs refer to both benefit perceptions and positive expectancies. Below, the most central findings are highlighted.

One of the most important findings from the study is that high negative beliefs overall are held. In the section exploring expectancies, it was shown that the majority believes that all consequences included at least fairly likely will occur. More than half the sample states that use very likely will lead to health problems. The same proportion states that one very likely would do things later to be regretted. About four out of ten states that illicit drug use very likely will result in rows with the family, economical problems, problems in school, psychological/emotional problems, addiction and doing things that normally would not be done. The consequences deemed as relatively least likely to occur are problems with police and involvement in violence. About for in ten states that these consequences not that likely or not likely at all will occur if illicit drugs are consumed. Nevertheless, although the findings show that the respondents are not indifferent to type of consequence, the general picture is that they believe that illicit drug use likely will lead to several negative consequences.

Seen in the light of these findings, the analysis into the ways that qualitative risk characteristics (QRC:s) are perceived revealed a pattern partly expected, partly unexpected. Overall, respondents state that they are rather afraid of the risks associated with illicit drug use and that their chance of controlling these risks is fairly small. While these findings are in line with what could be expected, the findings pertaining to how old and well known the risks are deemed as is unpredicted in one respect. Although these results could be expected provided the high problem profile of illicit drugs in Swedish society and the discussion about risk in chapter 3, they are somewhat intriguing when compared to prior risk perception research. This shows that if people judge risks as old and well-known, they tend to judge them as small (e.g. Fischoff, Slovic, Lichtenstein, Read & Combs, 1978 for a central contribution). Thus, the findings support Sjöberg’s (1991) contention that there might be different profiles for different risks. Perhaps there is something peculiar with the high problem profile of illicit drugs in Sweden that simultaneously makes people familiar with the risks as afraid of them.
The point has been made that the dangerousness of illicit drug use in Sweden seldom is seriously challenged (e.g. Bergmark & Oscarsson, 1988; Boekhout van Solinge, 1997). To some extent, the institutionalization of this view may be indifferent to a type of time-factor that usually has a bearing on how risks are perceived. While the ‘sensation-potential’ of many risks is associated with how long time they have been around, it may not be so for illicit drugs.

Further exploring on this pattern, the qualitative risk characteristics were subjected to a factor analysis. This analysis also included the PNCI, i.e. the composite index of the pool of negative consequences items. As can be recalled from chapter 3, research using factors such as dread as independent variables predicting risk perceptions has been criticized. Believing that a risk is very large often also means that one is afraid of it. Thus, factor analysis was used instead of regression analysis. Avoiding the problems stressed previously, this strategy nevertheless made it possible to examine how the different QRC:s ‘hang together’ with the PNCI. Although the PNCI is not fully equivalent to common measures of perceived risk, it is similar. The analysis yielded three interpretable factors. These were called ‘risk’, ‘familiarity’ and ‘future’. Interestingly, variables pertaining to how new and unknown the risks of illicit drugs are constitute a distinct dimension.

A somewhat conspicuous finding regarding positive beliefs is that a substantial proportion states that use at least fairly likely will result in positive consequences. More than half the sample state that 12 out of 19 positive outcomes at least fairly likely will occur if illicit drugs are used. Having fun, being relaxed and forget problems are perceived as most likely to occur among the pool of items. About three out of four believe that these consequences at least fairly would follow illicit drug use. Of note is that the high proportion of positive responses regarding having fun and being relaxed reflect central reasons given among illicit drug users for using (Boys, Marsden & Strang, 2001; Williams & Parker, 2001). Other consequences that a large proportion state are at least fairly likely to occur are feeling physical pleasure and being less shy in the company of others. Illicit substance use is hence appraised as having the potential to lead to different types of positive outcomes. The vast majority believes that it may be beneficial for other purposes (e.g. forget problems) as well as being positive in its own right (e.g. having fun). Several of the consequences included are, however, seen as not so likely to occur. Seven out of ten state that use not that likely or not likely at all will improve their self-knowledge. Six out of ten state that they not

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49 The PNCI relates to perceived likelihood that negative consequences will occur. A risk entails both a probability component and a component regarding negative consequences or undesirable states (cf. Sjöberg, 1994).
that likely or not likely at all will be friendly or sexual experiences will be more pleasurable.

Further, subjects were asked to what extent they believe that illicit drug use can be personally beneficial. Contrary to the other part, this question allowed any effect deemed beneficial to be considered. A strength of this design is that it allows for an appraisal of consequences perhaps unknown for the researcher (Fromme, Katz & Rivet, 1997) About 35 percent believe that illicit drug use at least to a fairly great extent can be beneficial for them personally. While not exceptionally great, this overall figure is notable provided the study population. Together with the findings into positive expectancies, it suggests a potential target for drug preventive interventions. Not only do many respondents believe that use at least fairly likely will result in many predefined positive consequences. Many also believe that illicit drug use may imply positive consequences of personally value. This is further discussed below.

In addition to this overall picture, the analyses showed some central distinctions. One of the most palpable of these is that between individuals with experience of using illicit drugs and individuals without such experience. The experienced group have 'lower' negative beliefs and 'higher' positive beliefs than their inexperienced counterparts. For example, they perceive all items included in the negative consequences pool as less likely to occur than what the other group does. They perceive all positive consequences as more likely to occur than what the other group does, albeit a few of these differences are not statistically significant. The results from regression analyses show that noteworthy differences remain in most outcomes when a series of variables are controlled for.

Exploring on this further, the analyses showed clear linear-like associations between perceptions of positive and negative sides and illicit drugs involvement last 12 months among lifetime users. Adjusted for several potential confounders, individuals who have used illicit substances ten times or more during the last 12 months consistently have 'higher' positive beliefs and 'lower' negative beliefs than any other use group. In some cases, they differ dramatically from the group of lifetime users who have refrained during the last 12 months.

The analysis into substance specific risk perceptions showed that there are some deviations from this pattern. For the heroin items, for instance, no differences were found between illicit drug experienced and illicit drug inexperienced individuals. Most likely, this is a reflection of the fact that very few adolescents use this substance or know someone else who does so. Yet, this analysis also showed some differences between these groups. There are for example notable differences regarding all cannabis items. Given the few deviations, the general conclusion to be drawn is that there are rather consistent differences between experienced and inexperienced in illicit drug
related beliefs. These findings adds to the extant literature – mostly consisting of US studies – documenting differences in risk/benefit perceptions and expectancies between adolescents engaging in risky behaviours and adolescents who do not or do so less (e.g. Benthin, Slovic & Severson, 1993; Como-Lesko, Primavera & Szesszo, 1994; Hammelstein, 1995; Hampson, Severson, Burns, Slovic & Fischer, 2001; Virgili, Owen & Severson, 1991). The question is how to interpret these associations. The current study is based on cross-sectional data which means that no causal inferences can be made. This point is discussed further below.

In line with prior work assessing young people’s risk- and benefit perceptions about risky behaviours (Gullone & More, 2000; Millstein & Halpern-Felsher, 2002; Slovic, Merz, Flynn & Satterfield; Smith & Rosenthal, 1995) the study documented consistent gender differences. The females believe that negative outcomes are more likely and positive consequences less likely to happen than what the males do. The only exception pertains to being involved in violence, where an opposite pattern was found. Differences remain in the regressions based on the PNCI and PPCI. The same holds in many cases in the analysis into perceptions about qualitative risk characteristics. The females are for example more prone to state that risks are uncontrollable and to be afraid of these. They have significantly lower odds for believing that illicit drug use can or could be beneficial and for believing that the benefits are greater than the risks. Further below, potential explanations for these associations are outlined.

It should be noted that a substantial proportion of variance in the outcomes is not accounted for by sex and experience. The inclusion of the control variables, however, added little. While single, significant associations emerged, the analyses failed to find any systematic relationships. The general pattern, the differences between the sexes and the differences between experienced and inexperienced individuals are therefore the only findings that are discussed further below.

An important finding from a methodological point of view concern the rather substantial correlations found between perceptions of different substances at different use levels. Some of these are very strong. One example is the correlation between using cannabis one or a couple of time and cannabis occasionally. This correlation exceeds 0.80. Indeed, this is notable. A few correlations are only modest in magnitude, however. Besides this, the study suggests that older adolescents in general do not make that apparent distinctions between different substances and different use levels in assessing the risks involved in illicit drug use.

As expected, however, experience of using illegal substances appear to moderate the strength of the associations. Stronger correlations between different items were found among the inexperienced group. The differences were significant across most pairs of correlations. To some extent, these
findings support the notion of a ‘methodological predicament’ in assessing illicit drug related beliefs in this type of samples. That is, samples including both individuals with experience of using illicit drugs and individuals without such experience. This is further discussed under the heading ‘suggestions for further research’.

**Potential mechanisms for the association between illicit drugs involvement and beliefs: rationality, rationalization or ‘true’ evaluation?**

The empirical study was designed to take into account both risk/benefit perceptions and expectancies. It might be suggested that the link between beliefs and behaviour is more salient within the expectancy research framework. It appears to be assumed rather than explicitly articulated within risk/benefit perception research. At least in part, this divergence might be a reflection of the different objectives of respectively research field. There are many points of contact between these two but also central disparities. Consider the following two excerpts. The first describes (alcohol) expectancy research and the latter risk perception research (in general):

The sine qua non of alcohol expectancies research is that these expectancies predict drinking behaviour…It is this relationship of expectancies to drinking that makes this research of value: expectancies are assumed to motivate drinking behavior (Critchlow Leigh, 1989, p. 364).

Studies of risk perception examine the judgments people make when they are asked to characterize and evaluate hazardous activities and technologies…This work assumes that those who promote and regulate health and safety need to understand how people think about and respond to risk. Without such understanding, well-intended policies may be ineffective (Slovic, 1987, p. 280).

Thus, the main thrust of expectancy research is to yield etiological insights whereas risk perception research intends to improve risk communication. Measures of substance related beliefs are consequently often treated as predictor variables within the first research and as outcomes important in their own right within the latter. Leaving aside these disparities, the differences between illicit drug experienced and inexperienced can be accounted for in two general manners. Both pertain to the direction of the causal path. The same applies to the associations found with level of illicit drugs involvement last 12 months among life-time users. The first holds that beliefs about
negative and positive sides precede consumption. The second holds that consumption precedes these beliefs.

The first explanation accords with expectancy theory (see Jones, Corbin & Fromme, 2001). As discussed in chapter 3, expectancy theory explains behaviour by people expecting particular effects of performing the particular behaviour. Positive expectancies is an important part of the motivation for performing the behaviour and negative expectancies is an important part of the motivation to abstain. This is a view with strong intuitive appeal. And there is empirical support, at least for alcohol, that beliefs about effects are present among people before being engaged in drinking (see e.g. Aas, Leigh, Anderssen & Jakobsen, 1998 for a review).

Even though expectancy research into illegal substances is sparse (Aarons, Brown, Stice & Coe, 2001), it can be presumed that the same view applies in these cases. There should be no reason why expectancies are important in relation to alcohol but not when it comes to illegal drugs. Consequently, expectancy theory would posit that subjects who have used illicit drugs have done so because they have different expectancies than the abstainers. There would be a clear causal direction with positive and negative expectancies preceding consumption. While some longitudinal work gives stronger support for the effect of expectancies on substance use (Stacy, Newcomb & Bentler, 1991) other prospective inquiries demonstrate reciprocal paths between these two (Aas, Leigh, Anderssen & Jakobsen, 1998; Gerrard, Gibbons, Benthin, Hessling, 1996). Beliefs appear to be adjusted to consumption experience too. This opposite path has been stressed in kindred fields where 'personal experience is widely believed to have a powerful impact on the recognition of risk and the willingness to take precautions' (Weinstein, 1989, p. 31). To a certain degree, there is probably a role played by experiences of using illegal substances in accounting for the illicit drug experienced individuals' different beliefs. Provided that this causal direction exists too, the question is what mechanism(s) is (are) responsible for these differentials. Why should experience of engaging in this activity affect beliefs about the same?

A potential explanation is that the experienced group practice some form of denial (cf. Gerrard, Gibbons, Benthin & Hessling, 1996). Seen in this way, they rationalize their prior behaviour. This is a position with strong theoretical support. Essentially, it is a corner stone within cognitive dissonance theory (see e.g. Harmon-Jones & Mills, 1999). As postulated by this theory, cognitions relevant to each other can be consonant or dissonant. If one follows from the other, it is consonant. If it is opposite, it is dissonant. If people know that they use drugs (one cognition) and know that this is a dangerous activity (another cognition), a feeling of dissonance is supposed to emerge. On the other hand, if people know that they have not used these substances and know that using drugs is dangerous, no feeling of
Concluding discussion

dissonance emerges. A central tenet is that dissonance is unpleasant. It is a feeling that people strive to avoid. Harmon-Jones and Mills (1999) exemplify how this mechanism is expressed when decisions are made. After a decision is made, negative sides of the choice and positive sides of what was not chosen are dissonant with the decision. Positive sides of the choice and negative sides of non-chosen alternatives are consonant with the particular decision. The dissonance involved can be decreased by removing negative aspects of the choice and positive sides of what was not chosen. Positive aspects of the chosen alternative might be added, as well as negative aspects of the alternative excluded.

Strivings to avoid cognitive dissonance is a possible mechanism behind differentials in the outcomes studied between illicit drug experienced and those without such experience. In the inexperienced group, it is consonant to think that there are many negative sides and fewer positive sides. No dissonance would arise as a function of holding these beliefs. This distinguishes this group from those who have used illicit drugs. To avoid an unpleasant feeling, respondents who have used illicit substances play down the negative sides of using and emphasize positive sides. Cognitive dissonance theory could explain the linear-like association found between illicit drugs involvement last 12 months and positive and negative beliefs of using among the life-time experienced as well. It would claim that more heavy users substantially play down the negative sides and substantially emphasize the positive sides.

This is, however, not the only way to explain the (potential) effect from behaviour to beliefs. The explanation offered by cognitive dissonance theory presupposes that the beliefs held are biased. In a sense, there is something wrong with them. Yet, they could just as well be based on conclusions drawn from personal experience. Some people may have low negative beliefs simply because they have not experienced negative consequences from their use. Some may have high positive beliefs because they have positive experiences from their consumption. The impact of such direct experience is in the expectancy literature seen as very important in forming substance related beliefs (see e.g. Lee, Greely & Oei, 1999). It may in part explain the associations found between illicit drugs involvement and the related beliefs tapped here.

It seems reasonable, though, to presume that to impact upon beliefs, the user should not have had too negative experiences and too small positive experiences. Adverse consequences experienced are likely to impact upon the ratings. In these cases, experience may actually lead to higher risk negative beliefs. A large body of research shows that personal experience of hazards (e.g. burglaries, crimes and earthquakes) leads to higher risk perceptions of these hazards (Weinstein, 1989 for review). Close to the topic studied here, the same pattern has recently been demonstrated in a study assessing risk perceptions about alcohol-related injuries (Slater & Rasinski,
An independent effect was found for personal experience of alcohol related injuries across several risk perception measures. It was, for example, associated with higher concerns and greater perceived severity of the outcome in question. This suggests that type of experience moderates behaviour-to-beliefs effects. It might be speculated that if the net experience is overly negative, positive beliefs will be lower and negative higher. If it is overly positive, positive beliefs will be higher and negative lower.

An important subtopic that is excluded in the study (though to some extent addressed in the benefits-question) concerns the judgment of positive and negative consequences, should they occur. Primarily, this concerns the belief-behaviour link. Perceived likelihood that particular consequences will occur is not the only thing heeded when people decide whether to engage in a given behaviour. This is an essential learning that comes from the most central decision-making theories in the health behaviour area. Reviews (Sutton, 1987; Weinstein, 1993) show that they all emphasize the perceived likelihood of particular consequences occurring and valuation of these consequences, should they occur. Both a probability component and an evaluative component are involved when people decide what action to take. Similar arguments have been expressed by alcohol expectancy researchers (Critchlow Leigh, 1989). For example, a person might believe that illicit drug use likely will lead to family conflicts, but may be indifferent to whether this outcome occurs or not. This particular consequence will hardly play an important motivational role in this case.

**Differences between males and females: why?**

As noted above, the study demonstrates significant differences between males and females in illicit drug related beliefs. The findings agree with previous research regarding adolescents’ positive and negative beliefs about risky behaviours. Consistent differences between the sexes have been documented in adults’ risk perceptions too (Boholm, 1998; Gustafson, 1998). However, the question is how to explain this pattern. Compared to the belief-behaviour link, few systematic efforts have been made to explain sex differentials. Thus, there is little guidance to be found in the literature.

A plausible explanation would be that the association is spurious. Both variables are correlated with illicit drug use which explains why there is an association. That there is an association between positive and negative beliefs and illicit drugs involvement should be clear by now. Also, research shows that there are systematic differences between males and females in risk taking (Byrnes, Miller & Schafer, 1999 for a meta-analysis). Males are

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50 It should be noted though that this was not the authors’ main research interest.

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overrepresented in most risky behaviours. However, the present study found a significant relationship between sex and positive and negative beliefs controlling for experience. This makes this explanation unlikely. To be valid, this requires that the association disappears when experience is adjusted for.

An additional, potential explanation concerns the impact of knowledge in accounting for differences in risk perceptions. A negative correlation between risk knowledge and risk perception of health related risks has been documented (Cook & Bellis, 2001). Correspondingly, men have lower risk perceptions because they have more knowledge about the size of the risks. The association emerged because the study failed to control for knowledge. This explanation, however, seems implausible as well. Differences in risk perceptions have been found between male and female scientists that are not confounded by different amount of scientific training (Barke, Jenkins-Smith & Slovic, 1997).

Biological differences between men and women neither seem to play a central role regarding differences in perceived risk (Boholm, 1998 for a research review). At least, not entirely. Support for this comes from risk perception studies conducted among different ethnic groups. An entirely biological explanation requires that the differences remain intact across different ethnic groups (Finucane, Slovic, Mertz, Flynn & Satterfield, 2000). This requirement has not stood up to empirical scrutiny, however. White males are different from all other groups in their risk perceptions and the differences are greater between white males and females than between non-white males and females (Finucane, Slovic, Mertz, Flynn & Satterfield, 2000). This pattern is found for many different activities and technologies including illicit drugs, cigarettes and alcohol.

The so-called white male-effect has been launched to explain this pattern. In contrast to explanations highlighting biology or knowledge, this explanation calls attention to socio-political factors. For instance, white males may perceive less risk because they benefit more from sources of risks (Finucane, Slovic, Mertz, Flynn & Satterfield, 2000). Interestingly, the white-male effect remains when the effect of variables such as age, income and education are controlled. This suggests that explanations must address the impact of ‘social roles, status differentiation, political values and concepts of fairness’ (Finucane, Slovic, Mertz, Flynn & Satterfield, 2000, p. 171).

Gustafson (1998) calls attention to the importance of similar factors. By references to gender theory, he particularly stresses the impact of women’s and men’s different living conditions. These are discussed in terms of gendered ideology and gendered practice. The first includes e.g. differences in norms, values and social roles. The second relates to men and women performing different activities in their everyday lives, e.g. productive work vs. nurturing. The interplay between these two is argued to lead to sex differences in risk perceptions.
The impact of different social roles have also been discussed in relation to sex differences in perceived risk among adolescents, albeit not very often. Gullone and Moore (2000) found an interaction effect between sex and age in risk perceptions of risky behaviours. The difference between males and females were larger among older adolescents. A potential explanation for this widening gap, according to the authors, concerns stronger sex role socialization at older ages. An aspect discussed in this respect concerns stereotypes. Young males are often portrayed as more prone to take risks than young females. This may impact on why they rate risks as lower. From this perspective, it is internalized expectations of how males and females should behave that explains differences in ratings. This view accords with the finding that internalized ideas about sex roles largely moderate the effect of sex on alcohol consumption among adolescents (Farmer Huselid & Cooper, 1992). Being male or female as such is not the primary factor behind the differences. It is internalized beliefs about how males and females should behave that is so. It remains unknown to what extent enrolled male and female respondents hold such beliefs. But it can be speculated that this is a potential reason why differences between the sexes were documented in this study. Expectations of appropriate male and female conduct have a bearing on substance use habits (Room, 1996 for a research review). It is therefore reasonable that they also influence beliefs about substance use.

**Implications for drug prevention**

This section discusses implications of the study. Particular attention is paid to the potential existence of what is called saturation. Introduced as a hypothesis and an analytical tool, it might be of value in drawing conclusions of a type seldom emphasized in the field. It can be used in relation to attempts addressing negative and positive beliefs alike. Further below I point out implications for research, concerning e.g. methodological issues.

**The saturation hypothesis: content, range and applicability**

A fundamental assumption permeating this study is that if there should be a potential for change in a given belief, a discrepancy is required between the content of the information disseminated and the beliefs already held by the receivers\(^5\). If conveying the same belief as already held (e.g. 'smoking is bad

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\(^5\) Of course, if the goal is to keep status quo this discrepancy should not be required. However, in Sweden with its official goal of a drug-free society, keeping status quo should not suffice. This is not to suggest that these types of measures alone are responsible for producing change in that direction. They are merely one part in a comprehensive 'combating
for your health), preventive attempts are incapable of producing a profound change. A systematic elaboration of this equally basic as important issue is offered by Fishbein and Ajzen (1975). Fishbein and Ajzen's arguments should apply to any belief and hence to those focused upon here as well. Following this broad application potential, it may be used as a benchmark for the entire empirical study.

Strictly speaking, the magnitude of such discrepancy cannot be ascertained without access to data revealing the messages conveyed in e.g. school-based drug education. However, the absence of such data does not necessarily disqualify the analytical potential of Fishbein and Ajzen's (1975) dictum. Important conclusions may nevertheless be drawn, albeit less precise. In taking the response categories pertaining to maximum degree of perceived risk and negative expectancies and a minimum degree of perceived benefits and positive expectancies as reference points for the actual responses, a crude estimate emerge of the room left to change in respectively belief domain. The use of ordinal measurement levels circumscribes of course the possibility to make precise assessments. But if content with a rough approximation, such a procedure should suffice.

The results into risk perceptions and negative expectancies generally suggest that the margins for change in such beliefs are rather narrow. Many subjects endorse response alternatives indicating great perceived risk and high negative expectancies. A dread factor is to a considerable extent involved. The risks are believed to be rather uncontrollable. The risks of illegal substances are stated to be old and well-known as well. Negative consequences are perceived as likely to follow use. All in all, there is nothing in the present data that indicates that subjects are unaware of risks and negative sides of using illicit drugs. Thus, the present study suggests that this domain may largely be saturated.

Saturation is a term used in a variety of fields including e.g. economics, telecommunications, chemistry and magnetics. The way it is understood here is analogous with the meaning it has within some of these. In economics, market saturation means a situation where a product has been diffused within a market. The extent to which the market for this particular product is saturated is related to the proportion of buyers who already owns the product. A very high diffusion rate means that the potential of further sales growth is limited, i.e. the market is basically saturated. In telecommunications, referring to a communication system, saturation means a condition at which a component of the system has reached its maximum traffic handling

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52 The dictum used here is elaborated by Fishbein and Ajzen (1975) within the framework of a general behavioural theory, i.e. it does not apply to any behaviour in particular.
capacity. In physical chemistry, referring to surface processes, the term means the degree of which a surface is full of something. In magnetics it refers to a state when a material is incapable of absorbing a stronger magnetic field.53

These examples indicate that saturation is an appropriate term to employ to signify either a state when something is maximally ‘imbued’ with something else or a particular level (sometimes referred to as a saturation point) when no more can be added, absorbed, assimilated, distributed or the like. Here saturation is understood as gradual. It might therefore be conceived of as a continuum ranging from not at all saturated to fully saturated. In imposing this continuum on the scale used to measure a specific belief, a rough indication emerges regarding the margins for change. For example, it may be imposed on the scale used to assess the extent to which illicit drugs are met with a dread reaction. Not afraid at all would correspond to not saturated. Very afraid would on the other hand correspond to fully saturated. Interventions assuming that degree of dread reaction is predictive of substance use54 would indeed have small effects if the receivers already are permeated with dread. Again, though, the scale employed here does not allow for any exact conclusions to be drawn. Mere tendencies can be delineated.

Throughout this study it has been argued that positive beliefs about substance use are crucial for drug prevention to pay notice to. This aspect has largely been neglected in the prevention literature. The potential to alter beliefs within this domain is dependent on an inverted discrepancy compared to that required for negative beliefs. If no positive beliefs actually would be held, this domain would be saturated. As shown, positive beliefs are among participants held to a certain degree indicating a potential room for change. That the majority believes that 12 out of the 19 positive consequences covered are at least fairly likely to follow illegal substance use is a clear example of this.

A clarification is required here, however. The above remarks concern the whole sample. No distinctions are made between different subgroups. There are considerable differentials between the genders and between users and no users. The case might be strongest for speaking about saturation when it

53 Definitions provided by wikipedia.org, www. wikipedia.org (as accessed 060704). More precise definitions would perhaps require a survey of relevant literature in respective field but would add little given the present purposes. The purpose is merely to emphasize the logics underlying the use of the term in other fields.

54 This is basically the case with information dissemination approaches employing ‘fear arousal techniques’ or ‘shock/scare tactics’, i.e. approaches that emphasize or exaggerate the dangers that inevitably ‘lurk’ in substance use (see e.g. Coggans & Watson, 1995; Sutton, 1992). The fundamental assumption of these is that if interventions manage to frighten users or potential users, they will stop or never engage in substance use.
comes to female non-users of illicit drugs. Thus, the above argument relates merely to a trend when it comes to the whole study population.

**Examining saturation: wider usages for the prevention field**

In chapter 2 it was shown that drug prevention to a considerable degree rests on a ‘deficit model’ of substance use. This is very clear when it comes to school-based drug education. A common denominator of most approaches is the attempt to ‘instil what is missing’. Preventive interventions may hence conceptualize adolescent substance use as stemming from lack of information about risks (information dissemination approaches); from poor self-esteem (affective approaches); from poor resistance skills (social influence approaches); or from poor generic life-skills (expanded social influence approaches).

Preventive interventions assume that behavioural effects will be reached indirectly if such variables are targeted. It is not the behaviour in itself that is addressed; it is its precursors. Hansen and McNeal (1996) name this particular logic ‘the law of indirect effects’. From their point of view, the idea that behavioural effects only can be reached indirectly is so central for prevention that it can be dubbed a law. Hansen and McNeal (1996) also suggest another law, ‘the law of maximum expected potential effect’. This holds that the magnitude of effects that can be achieved by the first law are constrained by the strength of the relationship between the targeted precursor (or mediator) and the behaviour in question. The strength of the association between e.g. poor resistance skills and substance use sets the limit for what can be achieved by an intervention attempting to improve such skills. To make a substantial impact, then, (1) interventions need to have large effects on the mediator and (2) the mediator must in turn be strongly related to the outcome to be prevented.

As regards the first point, to talk in terms of large effects on mediators should be the same as saying that the latter are largely changed or altered\(^{55}\). Transposed to school-based drug education, this should mean that something is added (and successfully ‘absorbed’ by the receivers) that are not already in place. Thus, change in mediators – and associated reduction in substance use – requires that there actually is something left to change in desired directions. This is a point likely to have immediate practical applications. If failing to determine to what extent e.g. adequate resistance skills already are held, preventive interventions cannot determine when the

\(^{55}\) This can e.g. be concluded from the following quote: ‘To achieve their effects, programs or policies must alter processes that have the potential to indirectly influence the behavior of interest’ (Hansen & McNeal, 1996, p. 303, italics added).
change potential in a given mediator is exhausted. As the logic of prevention is the same regardless of its specific target (i.e. ‘the law of indirect effects’), it should apply to any mediator. This indicates that the practical applications also may be vast. In formative research, for instance, an awareness of the potential of saturation may be helpful in selecting variables with change potential left. An ascertainment of the margins for change could therefore be regarded as a crucial step in assessing the likely net effect on behaviour.

A clarification is required here, however. The above arguments do not suggest that saturated mediators should be ignored. It may still be crucial to reinforce these, i.e. it cannot be assumed that they are stable over time. Providing more e.g. risk information is likely to have a reinforcing effect. It may thus be of value even amongst those individuals who already hold high risk perceptions.

Limitations of the empirical study

A number of limitations are attached to the current study. Firstly, there are methodological shortcomings that should be noted. Probably the most urgent of these stems from what in chapter 4 was termed a ‘methodological predicament’ of measuring perceptions of illicit drugs in normal adolescent samples. To a certain extent, researchers addressing such questions are faced with a situation difficult to fully come to terms with. On the one hand, there is the problem of constructing the questions overly simplified vis-à-vis the views held by the respondents. On the other, there is the problem of making questions too nuanced.

In this study, I based many of the questions on the simpler version. This inevitably poses the risk that respondents were forced to make answers which, in a sense, they cannot make. The fact that more evident substance specific consequences were omitted from the section addressing expectancies cannot eliminate this problem fully. Such a procedure likely reduces problems with validity. But the simple fact is that subjects may make clear distinctions even when it comes to the broadest categories of consequences (e.g. the broader category health problems instead of the more specific category respiratory problems). The picture displayed here may therefore, especially regarding the more illicit drug experienced respondents, only partly correspond to the actual view held. It should be kept in mind though that poly-users often use different illicit substances for the same reasons (Boys, Marsden & Strang, 2001). In addition, similar motives sometimes promote involvement in different risky behaviours among adolescents (Benthin, Slovic, Moran, Severson, Merz & Gerrard, 1995). This suggests that the validity problems stemming from the use of the simpler version perhaps not should be exaggerated.
Here it could be mentioned that the particular image surrounding illicit substances in Sweden may come to play as well. In the public discourse in Sweden, the label 'illicit drugs' is often understood as an equivalent to dangerousness (Bergmark & Oscarsson, 1988). This equivalency holds to a considerable extent irrespective of the pharmacological properties of the substances. No clear distinction is drawn between soft and hard drugs. This distinguishes Sweden from many other European countries (Chatwin, 2003). The personal opinion among the Swedish population largely corresponds to this view. For example, the vast majority believes that illicit drugs not can be used without one being addicted, with similar figures found for cannabis on the one hand and other illegal substances on the other (Hübner, 2001). This is not to say that the validity problems stemming from the generic version do not exist. But they may be smaller in Sweden than in countries such as the UK and the Netherlands.

A related point concerns the fact that most of the questions do not specify the consumption frequency of the behaviour the risk assessments refer to. By necessity, the risks increase with consumption frequency. Use on a day-to-day basis is riskier than occasional use. It follows from the lack of such a specification that the frequency to which the ratings refer is unknown. Moreover, it remains unknown whether different types of frequencies were assumed and to what extent this accounts for variations in the ratings. There might be variations among individuals in reality holding identical beliefs if some assume that the ratings refer to occasional use and some frequent use. This point should probably not be overstated, however. As is the case with making distinctions between different substances, a linear relationship cannot be assumed between degree of specification and degree of relevancy. Many respondents are likely indifferent to several distinctions that can be made between different substances and different consumption levels. Making a distinction to which subjects are indifferent opens for an inverted type of validity problems. As regards the impact of consumption frequency, the inquiry into the specific risk perception questions demonstrates strong correlations between different consumption frequencies pertaining to the same substance in several cases. While such correlations generally are stronger among illicit drug inexperienced respondents – as expected – strong correlations were documented among illicit drug experienced respondents as well. This is not to suggest that specified questions are unsuitable to use in studies among ‘normal’ adolescent populations. It is possible, however, that the optimal degree of specification goes somewhere between specified and generic questions. Given the theoretical importance of studying the belief-behaviour link, the importance of this issue cannot

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56 Essentially, as noted above, the link between anticipated consequences (and the valuation of these) of performing a behaviour and actual involvement is the most important element in many health-behaviour theories (see e.g. Sutton, 1987). This is also the case
be underestimated. This point is further discussed below under the section ‘suggestions for further research’.

A further methodological restriction should be mentioned. The construction of the questionnaire does not allow a comparison between the risk responses and the actual risk involved in illicit drug use. Such a procedure would require numerical risk estimates and very precise reference points for the ratings. These could subsequently have been compared with epidemiological risk estimates. It is therefore not possible to know whether the responses overestimate, underestimate or reflect the actual risks involved (see e.g. Sutton, 1999; Weinstein, 1999 for reviews of this issue regarding smoking). However, such comparisons fall outside the focus of the study. Therefore this limitation does not concern the study in itself.

In addition to shortcomings stemming from the construction of the questionnaire, limitations arise as to the degree to which the findings can be generalized. The fact that involved subjects attended third year in upper secondary school in the greater Stockholm area implies that the results not automatically can be extrapolated to other adolescent groups in Sweden. Two main aspects indicate that this is the case: 1) the fact that illicit drugs are more common in highly urbanised areas and 2) the fact that great developmental and other changes take place during adolescence likely to affect the type of outcomes studied here.

Regarding point 1, estimates indicate that the lifetime prevalence of illegal substances in Sweden increases with the size of the area where young people live (Guttormsson, Andersson & Hibell, 2004). It is more than twice as high in the highly urbanised areas as in the sparsely populated areas. From the link between use and beliefs follows that the overall estimates likely underestimate the ‘size’ of the negative beliefs and overestimate the ‘size’ of positive beliefs regarding the country at large. To the extent a region effect is involved, there might be an even stronger case for launching the saturation hypothesis. It would imply that the change potential in both negative and positive beliefs is more curtailed when it comes to the country as a whole.

Regarding point two, cautiousness is warranted in making inferences to what adolescents in general think about the topic. The results may say very little about younger adolescents’ beliefs in particular. Studies show that older adolescents hold lower risk perceptions than their younger counterparts across several risky behaviours (Goldberg, Halpern-Felsher & Millstein, 2002; Gullone & Moore, 2000; Gullone, Moore, Moss & Boyd, 2000; Lundborg & Lindgren, 2000; Millstein & Halpern-Felsher, 2002; Smith & Rosenthal, 1995). This might seem paradoxical, i.e. older adolescents have

within the expectancy research framework into substance use (e.g. Critchlow Leigh, 1989). Improving the knowledge base of how to methodologically go ahead in measuring beliefs about consequences can thus be seen as very crucial.
received more ‘formal’ risk information. However, it need not be so. Older adolescents usually have more personal experience, either direct or indirect, of the particular risk outcome studied. If they have not engaged in the activity themselves, someone else they know might have done so. It appears as if indirect experience of risky behaviours has a bearing on the risk perceptions.

Millstein and Halpern-Felsher (2002) discusses an explanation for this similar to a one often used to make sense of the link between consumption experience and lower risk perception. They emphasize the alleged fact that most experiences of risky behaviours do not lead to negative outcomes. Likely, few negative consequences have therefore been observed. This leads to lower risk ratings over time even among individuals who never have engaged in the behaviour. The authors show further that the impact of such observation is to be understood in relation to older adolescents being more equipped to critically reflect upon what they have been taught about causal relationships. Not only are older adolescents in a developmental phase more likely to promote such questioning. Their personal observations also provide them with fuel for so doing. This indicates that the illicit drug inexperienced respondents’ beliefs not may correspond with younger illicit drug inexperienced individuals’ beliefs. There might be a difference between these groups even after the effect of actual consumption experience is controlled.

The gap required between the beliefs already held and the belief conveyed may hence be smaller among younger adolescents. Perhaps it is smaller regarding positive beliefs as well. An independent association between age and benefit perceptions of alcohol consumption has been documented among young people (Goldberg, Halpern-Felsher & Millstein, 2000). Although direct and indirect experience likely is larger hindrance in preventive work with older adolescents (factors that actually might lead to the greater gap among this group)57, the case may be stronger for the saturation hypothesis when it comes to younger adolescents.

57 This point relates to a very important question for drug prevention, namely how to actually go ahead in changing the target audience’s beliefs, provided that there is room left to change. This is something that largely falls outside the scope of the current dissertation. However, a few notes can nevertheless be made. Amongst the more important issues is that the belief is perceived to be credible. This may be hard to achieve if the target group’s personal experiences contrasts sharply with the belief conveyed. As discussed by Yzer and colleagues (Yzer, Cappella, Fishbein, Hornik & Ahern, 2003), it seems very hard for preventive interventions to change beliefs that people will enjoy themselves by using a particular substance if this belief is formed on the basis of personal experiences. How can the belief conveyed really change their personal experiences? While personal observation and consumption experiences may imply a widening of the room left to change for prevention in practice it might prove very difficult to actually affect these beliefs. Thus, a tension is likely to emerge between on the one hand the need to convey a belief not already held and on the other, for credibility reasons, the need to convey a belief that is not to ‘distant’ from the beliefs already held (see. also Ajzen & Fishbein, 1975).
Guidance for how to account for age differences among adolescents is partly found in Fishbein and Ajzen's (1975) theoretical framework too. In discussing beliefs formed on the basis of external information, they make a usable distinction. This goes between a belief that an object has an attribute and a belief that an external source specifies that an object has an attribute. The latter may form the former belief, but not necessary. Adolescents may know that illicit drugs are portrayed as very dangerous in school-based drug education but may think otherwise about this relation themselves. In merging this distinction with Millstein and Halpern-Felshern's (2002) observations, the paradoxical character of the relation largely disappears. To the extent younger adolescents reflect less critically upon what they are taught, and have less direct or indirect experience, the gap is smaller between the two types of beliefs. Messages stressing the dangerousness are fairly easily accepted. More formal information received among the older group will likely strengthen the latter type of belief. Indeed, there is nothing paradoxical about this. They know the link specified in drug education. This does not necessary mean that they fully adopt the specified link themselves. Direct and indirect experience may be the basis of disparate substance related beliefs. This is neither paradoxical. As shown in this study, however, the risk perceptions are considerably high also among the older group.

A final, more general limitation stems from the arrangement of this study. Reflecting most quantitative studies in this area, respondents’ beliefs were assessed with predefined alternatives. It is therefore uncertain to what extent the picture displayed reflects beliefs held in ‘reality’. In real-world decision-making contexts, for example, other types of beliefs may come to play. However, the results of this study are arguably of value for practical drug prevention. It is common in practice, for example, to provide information about health consequences. In assessing beliefs about such consequences, this study provides knowledge regarding the room left for changing these beliefs.

Suggestions for further research

The current work has touched upon many issues in need of further research. Not all these can be mentioned here. These last pages highlight what I believe is amongst the more important research needs. These are subsumed under two headings. The first relates to narrow methodological issues. The second concerns an issue I think is imperative for the prevention

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58 The first type of beliefs is schematically represented as (O) is (X) and the second as (S) said (O) is (X). (pp. 133).
Concluding discussion

field to consider when it comes to how its study object – in the broadest sense – is approached.

**Methodological needs**

One urgent question confronting researchers measuring people’s beliefs is whether adequate questions are used. The difficulties are numerous: are the questions too simplified; are they too complex; are there too many response alternatives; are there too few? Indeed, this is an important issue. The simple truth is that one cannot get a proper picture of what people believe if proper questions not are used.

The need for improving the knowledge regarding how to measure young people’s beliefs about illegal substances is substantial. The topic is so delicate that it deserves much research interest. The optimal degree of specification is imperative to dwell upon in particular. At first glance it seems reasonable that more specification is better. However, as noted above, it need not necessarily be so. Risk perception researchers have observed that people often are incapable of making such specified responses as the so-called numerical scales presume (e.g. Sjöberg, 2000; Weinstein, 1999), e.g. ‘how many of 100 regular smokers will get lung cancer’. For example, studies using these scales to assess perceived risk of getting lung cancer from smoking have found that unexpectedly many respond 50 percent. This has been interpreted as not actually reflecting the ‘true’ belief. Instead, it has been seen as proof that respondents cannot make exact assessments. ‘50’ is used as a ‘default answer’ because many do not know how to answer the question (Weinstein, 1999, p. 17).

There is also experimental evidence that verbal estimates of probability (e.g. very likely) predict better both preferences and behavioural intentions (Windschitl & Wells, 1996). Among plausible reasons, the authors point out that the vast majority of respondents are not trained in scientific or statistical thinking. They do not think about probabilities in numerical terms. Slightly paradoxical, then, the use of simpler Likert-type scales may facilitate more ‘precise’ belief assessments than the numerical scales.

An important topic for future research is to explore the extent to which adolescents hold nuanced beliefs about illicit substances. Qualitative research in particular may be valuable. It cannot be overstated how important it is that such research covers as many segments as possible of the adolescent population. It cannot be presumed that young recreational drug users’ beliefs about the substances resemble young abstainers’. As to improving survey research, research is needed that examines the optimal degree of specification in the questions across the entire adolescent population. Of course, it would be impossible to design a questionnaire equally accurate for all respondents. But there should be room for improvements. Few studies
have systematically examined whether different groups differ in the distinctions they make between different substances. This suggests that the body of knowledge on which to found the questions is to thin at present.

A need for a broad synthesis?

For prevention to be effective, the pathways through which its targeted problem is established must be well understood. To some extent, etiological studies play an equally important role as intervention research in the field. Etiological research informs the best targets for interventions. Evaluations of these interventions, in turn, may yield etiological insights (Coie et al., 1993; Scheier, 2001).

At current, many researchers posit that the risk factor approach constitutes the most appropriate framework for drug preventive interventions. It allows for a multi-disciplinary approach. Any factor that increases the risk of substance use is taken into account. Although this specification allows for numerous factors to be considered, the truth is that some are overlooked.

Specifically, the risk factor research is silent about the potential impact of cultural trends. The rapid increase in consumerism is an overall trend likely to affect illicit drug use that is neglected. In European drug research, a good deal of attention has been paid to such trends. Social theory capable of making sense of these has been highlighted as well. Probably the best example of this orientation is found in Parker and colleagues' work (e.g. Parker, Aldridge & Measham, 1998). This has been inspired by more sociological thinking. Although this work has showed that pleasure is a central motive for substance use in contemporary consumption societies, it is virtually absent in the risk factor literature (Rhodes et al, 2003). Following the logic of prevention, this omission has considerable repercussions. With the emergence of prevention science, the influence of the risk factor model has become very strong. Institute of Medicine's influential prevention report (Mrazek & Haggerty, 1994) is clear that preventive interventions should address identified risk and protective factors. If this recommendation is followed very strictly, there is risk that a target with considerable change potential remains unaddressed. The risk factor literature highlights central targets, but its 'structure' suggests that it hardly should be the only basis for preventive interventions.

One of my major recommendations for future research is to conduct studies at the interface of the risk factor approach and the approach used by Parker and associates. Thus, I do not in principle favour any of these. It is my firm belief that there is more to gain in unifying these than to keep them apart. Both are useful vantage points from where to look at adolescent substance use. A merging of these would likely benefit the field at large. For example, it would allow for a combination of the methodological rigour of
the risk factor research and the analytical innovations offered by the other line of inquiry. Perhaps such a synthesis could result in a new way of conceptualizing adolescent substance use. Ideally, this includes both the signs of the times and empirically verified ‘deficit factors’ that encourage use.
REFERENCES


References


References


References


174


References


Hunt, G., Evans, K., & Kares, F. (2005). ‘Having fun, rolling and going crazy’: drug use and meanings of risk and pleasure. Paper presented at the 31th alcohol epidemiology symposium of the Kettil Bruun society for social and epidemiological research on alcohol, 30 may to 3 June, Riverside, California, USA.


References


References


References


References


References


References


References


The questionnaire (translated)

Before you fill in the questionnaire, read this

At the department of Social Work, Stockholm University there is a study going on about youths and preventive work with emphasis on life style and attitudes towards drugs. The aim of this study is to explore how youths in contemporary modern society view drugs based on their attitudes and experiences. As a part of this larger study, a survey directed to approximately 2000 students in upper secondary school in greater Stockholm is included. As an important step for preventive work is to know how youths view drug use, it is very important that we can take part of your opinion. The questionnaire is completely anonymous, so do not fill in your name anywhere. We will thus not know your name, and no one else will have access to the responses. The questionnaires will be stored in a safety locker.

The survey does not intend to measure your knowledge about drug issues but concerns your personal opinion. There are no right or wrong answers. However, it is important that you respond to as many questions as possible. If you feel that no response alternative is exactly appropriate regarding what you think, pick the answer that is closest. If you feel that you absolutely cannot respond to a certain question, skip it. Mark your answers with a cross (X) in the box that best accords with yourself or what you think. Most questions should only be marked with one alternative, but there exists questions with several response alternatives. How many answers you can give will be evident in the questionnaire. Besides questions with predefined response alternatives, there are also some questions where you should write down your answer.

After you have filled in the questionnaire, lend it over to the person who distributed it.

Thanks in advance!

Patrik Karlsson
Department of social work
Stockholm University
(contact information)
### Appendix

1) Are you male or female?
   1. [ ] male  
   2. [ ] female

2) What is your birthyear?
   19……….

3) What country are you born in?
   1. [ ] Sweden  
   Other country: .................................................................

4) What’s your nationality? (citizenship)
   1. [ ] Swedish  
   Other: ..............................................................................

5) What programme do you attend in school?
   1. [ ] social science programme  
   2. [ ] natural science programme  
   3. [ ] Occupation preparatory programme  
   4. [ ] Other (e.g. individual programme), what?
      ......................................................................................

6) How do you live at present? Concerns main living. Only one response alternative
   1. [ ] with both parents  
   2. [ ] only with mother  
   3. [ ] only with father  
   4. [ ] with mother and her new spouse/husband/partner  
   5. [ ] with father and his new spouse/husband/partner  
   6. [ ] only with siblings  
   7. [ ] with grandparents  
   8. [ ] with other relatives  
   9. [ ] alone  
   10. [ ] with boyfriend/girlfriend/husband/wife  
   11. [ ] else, what
      ......................................................................................

7) Does your mother live? (concerns your adoptive mother if you are adopted)
   1. [ ] yes  
   2. [ ] no go to  question number 9

8) Is your mother employed outside the home?
   1. [ ] yes  
   2. [ ] no

8a) If ‘yes’, what does she do?
    ..............................................................................
## Appendix

9) What type of education does/did your mother have/had? Indicate highest completed education

1. ☐ not completed compulsory school
2. ☐ compulsory school
3. ☐ upper secondary school or equivalent
4. ☐ university
5. ☐ don’t know

10) What country is/was your mother born in?

1. ☐ Sweden

Other country: ...........................................

11) Does your father live? (concerns your adoptive father if you are adopted)

1. ☐ yes
2. ☐ no go to ☞ question number 13

12) Is your father employed outside the home?

1. ☐ yes
2. ☐ no

12a) If ‘yes’, what does he do?

........................................................

13) What type of education does/did your father have/had? Indicate highest completed education

1. ☐ not completed compulsory school
2. ☐ compulsory school
3. ☐ upper secondary school or equivalent
4. ☐ university
5. ☐ don’t know

14) What country is/was your father born in?

1. ☐ Sweden

Other country: ...........................................

15) Do you consider yourself as belonging to a group with a particular style, such as hard rockers, skinheads, hip-hoppers or something else?

1. ☐ yes
2. ☐ no

15a) If ‘yes’, which

........................................................................

16) Do you have a clear-cut taste in music? (e.g. punk, hip-hop)

1. ☐ yes
2. ☐ no

16a) If ‘yes’, which

........................................................................
Appendix

17) Have you been ‘out’ at clubs, pubs or bars anytime during the last 30 days?

1  Yes
2  No

16a) If ‘yes’, how many times

…………………times

18) Below are a series of statements. Estimate how well these accord with yourself and your life. Only one response alternative per statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Accord completely</th>
<th>Accord fairly well</th>
<th>Do not accord that well</th>
<th>Do not accord at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ‘I often engage in activities that very likely are harmful for me’</td>
<td></td>
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<tr>
<td>b) ‘I feel great pleasure of doing things that very likely are harmful for me’</td>
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<tr>
<td>c) ‘I used to be more curious than most other people I know of trying out new things’</td>
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<tr>
<td>d) ‘I used to be curious of trying out things that most other people I know are afraid of’</td>
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<tr>
<td>e) ‘It is important for me to decide by myself what is right or wrong for me to do’</td>
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<tr>
<td>f) ‘It is important for me to do what my family thinks is right’</td>
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<td>g) ‘I am to a large extent prone to seek pleasure in my life’</td>
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<tr>
<td>h) ‘It is important for me to seek out new experiences’</td>
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<tr>
<td>i) ‘It is important for me to decide for myself what to do with my life’</td>
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<tr>
<td>k) ‘I spend little time on enjoy-ments’</td>
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<tr>
<td>l) ‘Attend parties is an important part of my life’</td>
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<tr>
<td>m) ‘I rather stay at home in the weekends than go out’ (pubs, clubs and bars)</td>
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<tr>
<td>n) ‘I am more prone than most other people I know of having “fun”’</td>
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<tr>
<td>o) ‘I plan much for the future’</td>
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<tr>
<td>p) ‘If I think that something is fun to do I will do it even if other people think it is wrong’</td>
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<tr>
<td>q) ‘If I think something is exciting to do I will do it even if this can lead to consequences that are harmful to me’</td>
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<tr>
<td>r) ‘I am a person who likes to take risks’</td>
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</tbody>
</table>
### Appendix

19) Have you ever been drinking alcohol?
1. yes
2. no   go to question 25

20) How often during the last 12 months have you been drinking alcohol (all consumption, not only for intoxication). Only one response alternative
1. no time
2. 1-5 times
3. 6-11 times
4. 1 time per month
5. 2-3 times a month
6. 1-2 times a week
7. 3-6 times a week
8. virtually every day

21) How often during the last 12 months have you been drinking 5 drinks or more during a day/night? (with 5 drinks are meant 
\( \frac{1}{4} \) bottle of spirits a 70 cl or 5 glasses of wine or 5 cans of medium strong beer [3 cans of strong beer] or corresponding amount). Only one response alternative
1. no time
2. 1-5 times
3. 6-11 times
4. 1 time per month
5. 2-3 times a month
6. 1-2 times a week
7. 3-6 times a week
8. virtually every day

22) How often during the last 12 months have you been drinking 12 drinks or more during a day/night? with 12 drinks are meant 2/3 bottle of spirits a 70 cl or 2 bottles of wine or 13 cans of medium strong beer [8 cans of strong beer] or corresponding amount). Only one response alternative
1. no time
2. 1-5 times
3. 6-11 times
4. 1 time per month
5. 2-3 times a month
6. 1-2 times a week
7. 3-6 times a week
8. virtually every day

23) Have you ever been drinking alcohol to a point where you felt intoxicated?
1. yes
2. no   go to question 25
24) How often during the last 12 months have you been drinking alcohol to the point where you felt intoxicated? Only one response category

- 1 □ no time
- 2 □ 1-5 times
- 3 □ 6-11 times
- 4 □ 1 time per month
- 5 □ 2-3 times a month
- 6 □ 1-2 times a week
- 7 □ 3-6 times a week
- 8 □ virtually every day

25) Do you personally know anyone who has used illicit drugs?

- 1 □ yes
- 2 □ no
- 3 □ uncertain

26) Have you ever used illicit drugs yourself?

- 1 □ yes
- 2 □ no        go to question 31

27) How old were you the first time you tried illicit drugs?

…………………………..years

28) Have you ever used… yes no

- a) cannabis (hash/marijuana)?
- b) amphetamine?
- c) cocaine (also 'crack')?
- d) heroin?
- e) tranquillizers, e.g. valium, rohypnol, benzodiazepines (without doctors permission)?
- f) other opiates?
- g) LSD?
- h) ecstasy?
- i) else?

If else, what ………………………………………….

29) How many times during the last 12 months have you used illicit drugs?

- 1 □ no time
- 2 □ 1-2 times
- 3 □ 3-5 times
- 4 □ 6-9 times
- 5 □ 10-19 times
- 6 □ 20-39 times
- 7 □ 40 times or more
Appendix

30) Have you during the last 12 months used…

<table>
<thead>
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<th>yes</th>
<th>no</th>
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<tr>
<td>a) cannabis (hash/marijuana)?</td>
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<td></td>
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<tr>
<td>b) amphetamine?</td>
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<td></td>
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<tr>
<td>c) cocaine (also 'crack')?</td>
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<td>d) heroin?</td>
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<tr>
<td>e) tranquillizers, e.g. valium, rohypnol, benzodiazepines (without doctors permission)?</td>
<td></td>
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<tr>
<td>f) other opiates?</td>
<td></td>
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<tr>
<td>g) LSD?</td>
<td></td>
<td></td>
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<tr>
<td>h) ecstasy?</td>
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<tr>
<td>i) else?</td>
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If else, what ………………………………………….

31) How likely do you think it is that illicit drug use can lead to consequences unknown to science today? Only one response alternative

<table>
<thead>
<tr>
<th></th>
<th>very unlikely</th>
<th>unlikely</th>
<th>fairly unlikely</th>
<th>fairly likely</th>
<th>likely</th>
<th>very likely</th>
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32) If you use or would use illicit drugs, how great do you think your chance is to control the risks associated with this use? Only one response alternative

<table>
<thead>
<tr>
<th></th>
<th>very small</th>
<th>small</th>
<th>fairly small</th>
<th>fairly great</th>
<th>great</th>
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</table>

33) Do you think that negative consequences of illicit drug use are immediate or do they occur later? Only one response alternative

<table>
<thead>
<tr>
<th></th>
<th>very immediate</th>
<th>immediate</th>
<th>fairly immediate</th>
<th>both and</th>
<th>occur somewhat later</th>
<th>occur later</th>
<th>occur much later</th>
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</table>

34) How well-known do you think that the risks associated with illicit drug use are to science? Only one response alternative

<table>
<thead>
<tr>
<th></th>
<th>very unknown</th>
<th>unknown</th>
<th>fairly unknown</th>
<th>fairly well-known</th>
<th>well-known</th>
<th>very well-known</th>
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<td>4</td>
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<tr>
<td>5</td>
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<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

195
### Appendix

35) How well-known are the risks associated with illicit drug use to you personally? Only one response alternative

- [ ] very unknown
- [ ] unknown
- [ ] fairly unknown
- [ ] fairly well-known
- [ ] well-known
- [ ] very well-known

36) If an accident or something else negative happened to you because you used illicit drugs, do you think this would imply serious or insignificant harm to yourself? Only one response alternative

- [ ] very serious harm
- [ ] serious harm
- [ ] fairly serious harm
- [ ] fairly insignificant harm
- [ ] insignificant harm
- [ ] very insignificant harm

37) How much do you trust the information delivered in school about the risks associated with illicit drug use? Only one response alternative

- [ ] not at all
- [ ] not that much
- [ ] fairly much
- [ ] much
- [ ] very much

38) How much do you trust the research findings about risks associated with illicit drug use that are reported by the media? Only one response alternative

- [ ] not at all
- [ ] not that much
- [ ] fairly much
- [ ] much
- [ ] very much

39) How afraid are you of the risks associated with illicit drug use? Only one response alternative

- [ ] not afraid at all
- [ ] not that afraid
- [ ] fairly afraid
- [ ] afraid
- [ ] very afraid

40) Are the risks associated with illicit drug use novel to you or have you known them for a long time? Only one response alternative

- [ ] very novel
- [ ] novel
- [ ] fairly novel
- [ ] known them for a fairly long time
- [ ] known them for a long time
- [ ] known them for a very long time
### Appendix

41) How great risk of harming yourself (physically or in other way) do you think you have if you would…….

<table>
<thead>
<tr>
<th></th>
<th>No risk at all</th>
<th>Slight risk</th>
<th>Fairly slight risk</th>
<th>Fairly great risk</th>
<th>Great risk</th>
<th>Very great risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Try hash/marijuana one or a couple of times?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Use hash/marijuana occasionally?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Use hash/marijuana regularly?</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>d) Try heroin one or a couple of times?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Use heroin occasionally?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Use heroin regularly?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Try ecstasy one or a couple of times?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) Use ecstasy occasionally?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Use ecstasy regularly?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

42) Estimate how likely you think it is that the following consequences would occur for you personally if you use/used illicit drugs. Only one response alternative

<table>
<thead>
<tr>
<th></th>
<th>Not likely at all</th>
<th>Not that likely</th>
<th>Fairly likely</th>
<th>Likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Problems with the police</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Rows with family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Rows with partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Involved in violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>e) Economical problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Health problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Rows with friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) Do thinks you normally would not do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Problems in school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>j) Psychological/emotional problems</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>k) Addiction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l) Lose control over yourself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m) Get into an accident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n) Do things you later on will regret</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

43) If you use or would use illicit drugs, to what extent do you think this can lead to benefits for you (with benefits are ment e.g. feeling pleasure or having fun). Only one response alternative

1 □ not at all
2 □ to a small extent
3 □ to a fairly small extent
4 □ to a fairly great extent
5 □ to a great extent
6 □ to a very great extent
Appendix

44) If you compare all benefits respectively risks for you personally with using illicit drugs, which are greatest, the benefits or the risks? Only one response alternative

- 1 □ benefits much greater
- 2 □ benefits greater
- 3 □ benefits slightly greater
- 4 □ benefits and risks equally great
- 5 □ risks slightly greater
- 6 □ risks greater
- 7 □ risks much greater

45) Below are a number of possible positive consequences of using illicit drugs listed. Estimate how likely you think it is that these consequences would occur for you personally if you use/used illicit drugs. Only one response alternative

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Not likely at all</th>
<th>Not that likely</th>
<th>Fairly likely</th>
<th>Likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling physical pleasure</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being more optimistic</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Having fun</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being wittier and funnier</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Get to learn someone better</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Easier to get in contact with the opposite sex / or if homo/bisexual also the same sex</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being less shy in the company of others</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being relaxed</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Forget problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Becoming self-confident</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Feeling group-belongings</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Being friendly</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Making sexual experiences more pleasurable</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Feeling more attractive in front of others</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Feeling happiness</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Easier to show feelings</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Improve self-knowledge</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being excited</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Being less inhibited</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
46) To what extent do you agree with the following statements:

a). ‘People should be allowed to use hash/marijuana’. Only one response alternative

1. [ ] do not agree at all
2. [ ] do not agree that much
3. [ ] agree to a large extent
4. [ ] agree completely

b). ‘People should be allowed to use heroin’. Only one response alternative

1. [ ] do not agree at all
2. [ ] do not agree that much
3. [ ] agree to a large extent
4. [ ] agree completely

b). ‘People should be allowed to use ecstasy’. Only one response alternative

1. [ ] do not agree at all
2. [ ] do not agree that much
3. [ ] agree to a large extent
4. [ ] agree completely

47) If it weren’t illegal to use illicit drugs, would you consider using any substance?

1. [ ] yes
2. [ ] no

48) To what extent do you consider yourself having a positive attitude towards illicit drugs? Only one response alternative

1. [ ] not at all
2. [ ] to a small extent
3. [ ] to a fairly small extent
4. [ ] to a fairly great extent
5. [ ] to a great extent
6. [ ] to a very great extent

49) Have you during the last 12 months received any education about alcohol, illicit drugs and tobacco in school? (so-called ANT-education). Only one response alternative

1. [ ] yes
2. [ ] no  ⇒ the questionnaire is completed, thank you for your cooperation

50) How did you experience the quality about the education about alcohol, illicit drugs and tobacco that you received during the last 12 months? Only one response alternative

1. [ ] very bad
2. [ ] bad
3. [ ] fairly bad
4. [ ] fairly good
5. [ ] good
6. [ ] very good
Appendix

51) Do you think that you have received too little or too much drug education in school about alcohol, illicit drugs and tobacco? Only one response alternative

1. [ ] way to little education
2. [ ] too little education
3. [ ] neither too little nor too much education
4. [ ] a little too much education
5. [ ] too much education
6. [ ] way too much education

Thanks for your cooperation!
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1993

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Stenström Jönsson, Ulla-Britta
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<tr>
<th>Namn</th>
<th>Titel</th>
<th>Ålder</th>
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<tr>
<td>Eriksson, Bodil</td>
<td>Från omsorg till socialt förändringsarbete – en analys av villkor för stödgruppsarbete.</td>
<td>1995</td>
</tr>
<tr>
<td>Trygged, Sven</td>
<td>Arbetslös och medellös. En studie av beredskapsarbetare i Stockholm.</td>
<td>1996</td>
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<tr>
<td>Oxenstierna, Gabriel</td>
<td>Socialtjänstens förutsättningar för barnavårdsarbete – en studie om villkor, påfrestningar och resultat</td>
<td>1997</td>
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<tr>
<td>Byqvist, Siv</td>
<td>Svenska narkotikamissbrukande kvinnor och män: missbruksförlopp och kriminalitet</td>
<td>1997</td>
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<td>Kurube, Noriko</td>
<td>Självhjälp och överlevnad – en studie av Länkarna</td>
<td>1997</td>
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<td>Blomqvist, Jan</td>
<td>Beyond Treatment? Widening the approach to alcohol problems and solutions</td>
<td>1998</td>
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<td>Stenius, Kerstin</td>
<td>Privat och offentligt i svensk alkoholistvård. Arbetsfördelning, samverkan och styrning under 1900-talet</td>
<td>1999</td>
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<tr>
<td>Abrahamsson, Maria</td>
<td>Alkoholkontroll i brytningstid – ett kultursociologiskt perspektiv</td>
<td>1999</td>
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<tr>
<td>Sundh, Kenneth</td>
<td>Socialtjänstens strukturinriktade arbete – utveckling, möjligheter och hinder</td>
<td>1999</td>
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<td>Forinder, Ulla</td>
<td>I skuggan av cancer – benmärgstransplantation hos barn ur ett föräldraperspektiv</td>
<td>2000</td>
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<tr>
<td>Billinger, Kajsa</td>
<td>Få dem att vilja – motivationsarbete inom tvångsvården av vuxna missbrukare</td>
<td>2000</td>
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<tr>
<td>Sallnäs, Marie</td>
<td>Barnavårdens institutioner framväxt, ideologier och struktur</td>
<td>2000</td>
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<tr>
<td>Trydegård, Gun-Britt</td>
<td>Tradition, Change and Variation. Past and present trends in public old-age care</td>
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<td>Hübner, Lena</td>
<td>Narkotika och alkohol i den allmänna opinionen.</td>
<td>2001</td>
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<tr>
<td>Topor, Alain</td>
<td>Managing the Contradictions – recovering from severe mental disorders</td>
<td>2001</td>
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<tr>
<td>Ekendahl, Mats</td>
<td>Tvingad till vård – missbrukares syn på LVM, motivation och egna möjligheter</td>
<td>2001</td>
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</table>
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Byberg, Ingrid
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