Mission Impossible?
Universal Alcohol Prevention at Workplaces in Sweden

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To Petter and to my girls;
Eira, Liv & Martina
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Acknowledgements

In April I will turn 40. And three weeks later this dissertation will be defended. Two rather significant events in one month, but I choose to ignore the first. It is inevitable. Let’s focus on the other event. A year ago I was convinced that this would not happen. There would not be any dissertation. And here I am, truly happy and proud of myself (regardless of the content actually – it’s a book with my name on it for crying out loud).

The road to a doctoral dissertation in Criminology has not been a straight path. When I left the comfort zone in Skövde – with my friends Karolina, Åsa, Helena and later joined by Eva – with whom I cohabited in various forms, academic studies awaited. My first year at Stockholm University consisted of studies in Latvian. Long explanation behind this and I hardly remember a word Latvian today. The next course was political economy (WHAT was I thinking?!). Then, finally, I began to study Sociology and later on Criminology. I have now worked at SoRAD for 12 years (I have not been a PhD-student for 12 years). In the year of 2000, shortly after SoRAD was established, I was contacted by Nina Axnäs. Nina and I studied Criminology together some time earlier and she had started to work at SoRAD with Börje Olsson and they needed a research assistant. Without her I would not be here today and I thank Nina for this! Nina was also in charge of one of the sub-studies involved in the first article.

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Daniel Kvist! Thank you for saving my cover drawing in the last minute when the printing office said the format would not work. And speaking of the cover and front page: I apologize to ALL you cineasts who had to read this book without finding a single reference to Tom Cruise. It was Janne
Flyghed who suggested the title “Mission Impossible?” with the additional comment that finishing this thesis was not an impossible mission.

My parents, Ann-Marie and Siwert and my sister Jenny and my brother Peter – finally you have a full book to read and you will fully grasp what I do for a living! I enjoy being me most of the time and I would not be me if it were not for you.

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Our three girls; Eira, Liv and Martina… well you have not contributed anything to this thesis. But without the disturbing and wonderful noise and chatter always present in my life I would not survive and the very existence of you three lot makes me immensely happy!

And with all these words I hope you have a good reading and take care!

Mimmi Eriksson Tinghög
Stockholm, March 2013
List of original papers

**Paper I**: Eriksson, M., Olsson, B. & Osberg, J.
Alcohol prevention in the Swedish workplace – who cares?

**Paper II**: Mimmi Eriksson Tinghög

**Paper III**: Mimmi Eriksson Tinghög & Petter Tinghög
Preventing alcohol problems and improving drinking habits among employees: An evaluation of an alcohol education.
Under review.

**Paper IV**: Mimmi Eriksson Tinghög
An eye opener, but mostly for others: employees’ perceptions on workplace alcohol education programmes.
Published in *Health Education* (2013) 113 (2): 144-159.

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Abbreviations

AFS Swedish Work Environment Authority’s statute book (Allmänna föreskrifter)
ANOVA Analysis of variance
AUDIT Alcohol Use Disorder Identification Test
EAP Employee Assistance Programs
EU European Union
FAS Swedish Council for Working Life and Social Research (Forskningsrådet för Arbetsliv och Soci-alvetenskap)
FHI Swedish National Institute of Public Health (Folkhälsoinstitutet)
HBM Health Belief Model
HRC Human Resource Centre
IBM Integrated Behavior Model
IOGT-NTO International Organization of Good Templars – National Templar Order
LRDG Low-risk drinking guidelines
NGO Non-Governmental Organization
NPM New Public Management
OHS Occupational Health Service
SoRAD Centre for Social Research on Alcohol and Drugs (Centrum för socialvetenskaplig alkohol- och drogforskning)
SOU Swedish Government Official Report (Statens Offentliga Utredningar)
RCT Randomized controlled trials
WHO World Health Organization
INTRODUCTION

Besides the positive, fun and pleasurable sides of alcohol there are also negative consequences. Excessive alcohol consumption has adverse effects on individual health and society and is linked, for example, to illness, disability, crime and social problems, causing both societal costs and individual harm to the drinker and to other people in the drinker’s environment. Many strategies and methods have been used to prevent alcohol-related harm. In Sweden, alcohol policy has for a long time been characterized as restrictive, with the overall aim of reducing the level of total alcohol consumption in the population. The alcohol policy control system in Sweden has been described as being based on three pillars: minimizing the profits from alcohol production and sales, restricting the physical availability of alcohol, and the regulation of economic availability by means of high taxes (Tigerstedt et al., 2006). Since Sweden joined the European Union (EU) in 1995, several changes have occurred with respect to these pillars however (Cisneros Örnberg & Ólafsdóttir, 2008; Holder et al., 1998). The state-owned alcohol retail monopoly (Systembolaget) is the only alcohol monopoly that remains in Sweden. All other state alcohol monopolies – import, export, wholesale and production – have been abolished (Cisneros Örnberg & Ólafsdóttir, 2008). In addition, traveller allowances have been raised and taxes on alcohol have been reduced (Mäkelä et al., 2008).

Although many regulatory instruments were lost during the 1990s, there remained an optimistic view among many politicians about the possibility of applying alternative, compensatory preventive measures. Additional areas for prevention have been stressed in various governmental documents, and the workplace is one area that is repeatedly referred to as important (Prop. 2000/01:20; Prop. 2005/06:30; Prop. 2010/11:47). One recent government bill (Prop. 2010/11:47, p.46) states the following with regard to workplaces: “Information and education are important tools to reach out and disseminate knowledge on risk levels in relation to alcohol, drugs, doping and tobacco. These and other interventions can affect attitudes and reduce the risk for addiction problems” (author’s translation). The workplace has also been placed on the agenda within the EU, along with the importance of developing improved methodologies, and the better utilization of the supposed potential of this arena is emphasized. In the EU alcohol strategy from 2006, for example, it is suggested that: “For all workplaces, there could be a policy to
prevent alcohol-related harm, including information and/or education campaigns, and to provide help and specialised care for employees with alcohol-related problems” (Commission of the European Communities, 2006, p.15).

Dissemination of alcohol information and alcohol education are typical universal preventive measures. Universal preventive interventions are interventions that target entire populations with the aim of preventing alcohol problems from arising. A universal preventive approach is considered to have more potential, since alcohol consuming employees without obvious alcohol problems constitute a much larger group and cause more alcohol-related work problems than those fewer individuals who have more severe alcohol problems (Bennett & Lehman, 2003; Crofton, 1987; International Labour Organization (ILO), 2003; Mangione et al., 1999; Pidd et al., 2006). With a universal preventive approach it is also possible to reach problematic consumers, without the risk of stigmatization.

The workplace is considered an appropriate setting for preventive work for a number of reasons. It is possible to reach a lot of people, since the majority of the adult population is in employment. Adults also spend a lot of time at their workplace, which maximizes exposure to intervention strategies. In addition, the promotion of good drinking habits and knowledge on risk levels could extend to the employees’ families and friends (Pidd et al., 2006; Roman & Blum, 2002). Work often plays an important role in people’s lives and most often the employees wish to keep their jobs. This could motivate employees to seek help for alcohol-related problems if given the right information, tools and channels to do so. Excessive alcohol consumption or alcohol problems among employees can lead to accidents and injuries, reduced production, increased healthcare costs, absenteeism and hangover-related performance problems (Ames, Grube & Moore, 1997; Holder, 1990; Mangione et al., 1999; Pidd et al., 2006) and these are often presented as important reasons for employers to work with alcohol prevention.

It is thus not strange that the workplace is considered an appropriate arena for alcohol prevention. What is strange, however, is the lack of discussion about what can be expected within the field and about the fact that universal prevention at workplaces will most likely not emerge on a large scale on the initiative of individual employers (Sandberg, 2004). Even though the workplace may have potential, it is thus not at all certain that employers will comply with this demand and that these kinds of efforts will become common practice. Another question concerns how and by whom these types of interventions are going to be conducted. The occupational health services (OHS) in Sweden have been in decline since 1993, when the government subsidy was withdrawn, and the OHS have been described as today being more of a commercial commodity focused on fulfilling clients’ requests,
rather than a resource for preventive work in a broader sense and from a societal perspective (Marklund et al., 2005). The weakening of state-governed alcohol policy and of OHS has opened up the field of prevention for non-government organizations (NGOs) and so-called experts. When politicians assume less responsibility for alcohol prevention, it is left to these experts and organizations to advance the field further. For these experts, this also represents an opportunity to gain legitimacy and to advocate their specific methods. Since the mid-1990s, many local prevention measures have been developed and evaluated and so called “prevention workers” have been educated at the local level (Karlsson & Tigerstedt, 2004). New actors have thus emerged in the broader field of alcohol prevention.

In addition, there is a pressure to use evidence-based methods. Since no evidence-based methods really exist within the field of workplace-based universal alcohol prevention, and since such research is scarce overall (Roman & Blum, 2002; Webb et al., 2009), the need to develop and find effective methods and to evaluate the activities chosen, has grown stronger. For these reasons it has also become more common for NGOs to evaluate their work by means of effectiveness evaluations. The evidence-based approach in public policy has been described as “… the aspiration to produce the knowledge required for fine-tuning programs and constructing guidelines and ‘tool-kits’ for dealing with known problems” (Head, 2008). This is a somewhat critical description that illustrates the technicalities associated with the quick-fix solutions that surround certain aspects of evidence-based practices. The development towards evidence-based methods is consistent with New Public Management (NPM), which involves various ideas about how to make the public sector more efficient and worth what it costs (Hood, 1991; Pedersen, 2007). Whether these methods will ever be identified and found to be effective is disputable however. To develop and identify evidence-based methods in the field of universal prevention is a very complex task and studies cannot be performed under optimal research conditions in controlled environments but rather have to be performed in real world conditions.

The vast majority of the universal preventive interventions performed, and the research conducted, have taken place outside Sweden and on school children and adolescents in various substance use prevention programs. The setting has consequently been at schools or in universities. Adults, for example at workplaces as in this thesis, are rarely subjected to these kinds of interventions and very little research has been conducted on workplace-based alcohol and drug prevention (Roman & Blum, 2002; Webb et al., 2009), particularly when it comes to universal preventive interventions. The focus in this thesis is on universal prevention in the form of alcohol education programs performed by NGOs directed at adults in workplaces. It deals with the expectations on working life and on the possibilities and barriers associated
with, and the effects of, workplace-based prevention. The project as a whole can be seen as one result of the developments described above; the weakening of alcohol policy, the focus on workplaces, the increased involvement of NGOs, the focus on developing evidence-based methods and the challenges associated with real-world evaluations. The strength of this thesis is that the phenomenon of workplace prevention has been investigated via both quantitative and qualitative materials, from several perspectives and from the viewpoint of several different actors.

Background
This thesis has its background in, and is an extension of, a project entitled “Alcohol and drug prevention in a changing society”. This is a research program funded by FAS (the Swedish Council for Working Life and Social Research), which aimed to investigate alcohol and drug prevention from various angles in the social services and at workplaces. The overall research question concerning workplace prevention thus came to revolve around the broad question “What can we expect?” In the context of an investigation of whether the expectations placed on workplace prevention are realistic, in terms of employer and employee interests, a number of crucial issues were identified that needed to be addressed: possibilities, prerequisites and barriers in conducting preventive work, and also the effectiveness of interventions. Paper I was one of the articles written within this program and deals with the general interest in prevention among both employers and employees. Another aim of the project was to find and study “good examples” of workplace-based universal prevention, which was easier said than done, since these kinds of interventions are very uncommon. Another option emerged in the form of a proposal to follow and evaluate a few interventions that were going to be performed (rather than already being “good examples”).

IOGT (Independent Order of Good Templars) is an international temperance organization with roots in the USA. IOGT-NTO, where NTO stands for National Templar Order, is the Swedish branch of this organization and is part of IOGT-international. IOGT-NTO proposed that SoRAD (Centre for Social Research on Alcohol and Drugs) should follow and evaluate several alcohol educational interventions that were going to be conducted at different workplaces. Thus the opportunity arose to follow and study a number of real-world interventions from a variety of angles. IOGT-NTO and those in charge of the project in the municipality where one of the interventions took place, regarded adults as a neglected group in the prevention field and believed that children would also benefit from more responsible drinking in the adult population. In the beginning, the idea was that IOGT-NTO would approach...
several workplaces with a proposal to conduct and evaluate alcohol educa-
tions at their workplace. This turned out to be problematic, however, since
no one was really interested. Whether this reluctance was due to a lack of
interest in alcohol prevention for various reasons, or whether it was due to
the fact that it was IOGT-NTO that was going to conduct the intervention is
difficult to speculate about. The latter possibility might, for example, be due
to some people, or in this case employers, being sceptical the organization
being a temperance organization, since absolutism might be something they
do not wish to support or to transmit to their employees as constituting an
important goal. IOGT-NTO however clearly stated that this was about pre-
vention and risk reduction and not about absolutism. It seems most likely
that the difficulties experienced getting employers interested were due to a
combination of these factors.

Three educational interventions were performed. Two of them were held by
IOGT-NTO at two different companies. The third education was performed
in a municipality, where all those employed by the municipality were to
attend an alcohol education program. An organization called HRC (Human
Resource Centre), who obtained the assignment via a tendering process,
conducted this education program. Two of the interventions were evaluated
in terms of effectiveness, one of the IOGT-NTO’s education programs and
the HRC education program. The author of this thesis served as an inde-
pendent researcher and is solely responsible for the data analyses and the
conclusions drawn, something that has also been specified in a legal con-
tract.

Although the expectations about producing any effects on alcohol habits
were low from a research perspective, given the findings from most previous
research, this research project was regarded as interesting and important. The
opportunity to study the effects of these case studies provided an opportunity
to raise the question of workplace-based prevention broadly from an imple-
mentation and participant perspective as well as from an alcohol policy per-
spective. In addition, the effect studies relate to, as has been noted, a popula-
tion and a setting that has rarely been studied – adults and workplaces. The
expectations associated with workplace-based prevention were seen as hav-
ing been a neglected, and as a necessary and important issue to analyze and
discuss in the light of the ongoing political changes in Sweden.

Purpose of the thesis

The overall purpose of the thesis is to analyze the prerequisites for and the
possibilities and barriers associated with universal alcohol prevention at
workplaces in Sweden. These issues are analyzed from different actors’ per-
perspectives. In conjunction with the often-claimed need for interventions that are evidence-based, the effects of two alcohol education programs are also studied. The first paper investigates the general interest for alcohol prevention among employers, employees and union representatives at workplaces where no interventions have been conducted. The second paper is an effect study, which investigates the effects of an alcohol education program provided to those employed at an insurance company in Stockholm, Sweden. This study also brings to fore the important experience of the complexity of evaluating interventions such as this at workplaces. In the third paper, a day-long alcohol education program for all those employed by a municipality is studied in the form of an effect study. The fourth and final paper is a qualitative interview study with additional quantitative elements, in which the aim is to analyze how the participants in alcohol education programs view their participation and the content and legitimacy of the intervention.

Outline

The previous section provided an introduction to the topic, background and purpose of the thesis. The next section will describe alcohol education programs, and also two additional preventive measures that are also commonly applied at workplaces, together with the most recent research in these areas. This is followed by a discussion of important and relevant concepts and theories relating to the field. Thirdly, there is a presentation of summaries of the four papers included in the thesis, together with the methods and data employed and analysed in these. This is followed by a section on validity and the methodological limitations faced by the studies. There then follows a section of discussion and conclusions, which discusses the separate papers and the overarching objectives of the thesis.
Workplace-specific preventive measures

There are many alcohol- and drug-specific universal preventive measures, of which the three that are most relevant for workplaces are: alcohol and drug policy, alcohol and drug tests and alcohol and drug education. These are briefly described below, along with the most recent research findings about their use and effectiveness. The main focus in this thesis is directed at alcohol education, but in order to understand and discuss education programs of this kind, it is fruitful to discuss other universal preventive alternatives that might be performed at workplaces. Policies and testing are also touched upon briefly in Paper I. Preventive measures employing a selective or indicated approach, which specifically target employees with vague or manifest alcohol problems, such as brief interventions and motivational interviewing, will be left aside. In short, this is an area where a lot of research has been conducted, particularly in the primary care sector but also at workplaces, and these types of interventions have also been shown to be rather successful in changing risky drinking patterns (Kaner et al., 2007; Larimer & Cronce, 2002; Moyer et al., 2002; Shamblen & Derzon, 2009; Vasilaki, Hosier & Cox, 2006; Wutzke et al., 2001), although the implementation process has been shown to be rather problematic (Barry et al., 2004; Johnson et al., 2011). However, these methods lie beyond the scope of this thesis, since both the methods and purpose of these interventions are more or exclusively of a selective preventive, rather a universal preventive character.

Alcohol and drug policies

The most commonly applied form of regulation in workplaces involves alcohol and drug policies. Workplaces may also have an action plan, which might be included in an alcohol policy or kept separate. I refer to both as alcohol policies, regardless of whether or not an action plan exists, since they are often merged into one document, and it is more common to have a policy than to have an action plan (as is noted in Paper I). Far from all workplaces have a policy, however, and they are also more common at larger workplaces (Eriksson & Olsson, 2002; Eriksson & Sandberg, 2004). In general, an alcohol and drug policy means that the employer has a written document, distributed to all employees, which clearly states the company’s policy on alcohol and drug issues. The policy might contain guidelines or rules
on how to handle alcohol and drug problems, how to act upon suspicion that an employee is intoxicated at work, how to control alcohol availability at the workplace or in workplace-related contexts, or how the workplace works with prevention. If employers use alcohol and drug testing, it is considered even more important that the reason for this, and the consequences of positive test results, are thoroughly documented in a policy and distributed to the employees (Eriksson & Olsson, 2001). In Sweden, there are regulations stipulating that all employers should have a written policy. In the Swedish Work Environment Authority’s statute book (AFS), the provision on work adjustment and rehabilitation (Arbetarskyddsstyrelsen, 1994) includes guidelines for employers on what should be included in a policy when it comes to alcohol and drug rehabilitation and prevention.

There is nothing that clearly indicates that having an alcohol and drug policy will by itself reduce alcohol- or drug-related harms in the workplace. However, having a policy is viewed as being fundamental to other actions and it is also believed that a well thought-out policy may affect employees’ attitudes and at least have the potential to affect behaviors relating to the use of alcohol (Pidd et al., 2006).

Alcohol and drug tests
Another form of regulation that workplaces can adopt is the use of alcohol and drug tests. The choice of tests and the purpose for which they should be used differs between alcohol and drugs. All employees could be screened for various types of drugs by means of urine testing, for example, prior to an employment decision, or all employees could be subjected to random drug testing. The objective of pre-employment screening is to avoid hiring drug users and for the company to make a statement about its view on drug use. The main objective of random testing is to deter the employees from using drugs. Alcohol tests on the other hand are primarily used when there is a suspicion that an employee has been drinking during work hours or that there is an alcohol problem. It is also common to use alcohol testing when an employee is under treatment but still working. Alcohol tests are thus seldom used randomly, but rather when there is cause for concern. The use of alcohol testing as a universal measure, for example, might involve all drivers at a bus company having to use a breathalyzer prior to starting their buses.

Alcohol and drug testing at workplaces is a very controversial topic (Maguire, 2004). The controversies mainly relate to integrity issues and possible adverse consequences but also to the effectiveness of testing. The scientific evidence for the effectiveness of drug testing is weak and inconclusive (Normand et al., 1994; Macdonald et al., 2010; Pidd et al., 2006; Shep-
ard & Clifton, 2012) and the use of drug testing programs is expensive. In addition, being required to urinate, preferably under observation, particularly given that test results are not always accurate, may be viewed as a violation of both privacy and personal dignity (Gilliom, 1996). It is also highly likely that not all types of employees will be subjected to testing, which raises the question of discrimination. It is probably more likely that the ‘ordinary employees’ of a given company will subjected to drug testing than that the management or board of the same company will be required to undergo such tests. The use of drug testing is said to be increasing at workplaces in Sweden (SOU 2009:44). In the land where it all began, the US, the increase in drug testing has been substantial, ever since the 1980s (Tunnell, 2004).

Alcohol and drug educations

There is a long history of the use of information-based and educational interventions (Moskowitz, 1989). The basic idea behind most education programs is that the more people know about alcohol, drugs and their associated risks, the more likely they are to make health-promotive choices. The most common arena for these education programs is the school – primarily in the form of elementary and secondary schools but also at colleges and universities. The aims of such education programs are: to increase knowledge on alcohol and/or drugs and associated risks, to change attitudes to drinking and drug use, to change drinking and drug use habits and to reduce the seriousness and frequency of drinking and drug problems.

The majority of studies on the impact of educational interventions show no, or only very small, non-lasting, effects on alcohol and drug consumption (Anderson, Chisholm & Fuhr, 2009; Edwards, Anderson & Babor, 1994; Foxcroft & Tsertsvadze, 2011; Moskowitz, 1989). The effects of alcohol and drug education programs are also very difficult to study. Most meta-analyses conclude that many of the studies performed suffer from methodological problems (Webb et al., 2009). And there are of course reasons for this. These kinds of evaluations can rarely be conducted under ideal research conditions. Education programs are provided to groups rather than individuals and, particularly at workplaces, it is difficult to create randomized groups. It is furthermore difficult to gather data in routine work situations.

Most of the studies and reviews have focused on programs performed at schools however. The reason for this is simple – most programs are conducted at schools and few educational interventions with a focus on adults at e.g. workplaces have been conducted and studied (Webb et al., 2009). It has thus not been established whether adults react differently to alcohol and drug education programs. It is said to be more difficult to change behavior among
individuals whose behavior has become deeply rooted and well-established over a long period of time (Triandis, 1979). But it might also be argued that adolescents are more prone to disregard alcohol information and advice from adults, since, adults claim, they more often feel immortal, take more risks and have a long life ahead of them. Adults given the same advice, who are usually somewhat closer to death, might perhaps have experienced more health deterioration and think more about what they eat and drink, whether they exercise and so forth. It might thus be possible to argue that adults could in fact react differently to alcohol and drug education programs by comparison with younger individuals. Following this line of reasoning, it may perhaps be easier to at least affect adults’ intentions to change their behavior, than it is to do so among adolescents. This topic has hardly been studied at all when it comes to alcohol prevention however. Where prevention is concerned, the focus is almost always on young people.

Alcohol and drug education programs may also have counterproductive effects. It has been shown for example that some drug preventive efforts increase rather than decrease drug use (Lab, 2007; Lindstöm & Svensson, 1998). It has been suggested that the reason for this might be that education and information on drugs might cause an increase in curiosity among adolescents, which could in turn lead to the onset of experimentation with illicit drugs (Lab, 2007).

Legal and illegal – alcohol versus drugs

Alcohol and drug prevention are often mentioned in the same context and the differences between the two are often blurred, as can be seen clearly from the three measures described above: alcohol and drug policy, alcohol and drug tests and alcohol and drug education. There are however many differences between how alcohol and drugs are viewed among both politicians and the general public, besides the one being legal and the other illegal. These differences relate to how seriously the use and misuse of these substances is viewed, how morally wrong the use or misuse these substances is viewed as being, which prevention activities or legal restrictions should be performed and are viewed as acceptable, and what the perceived consequences are of using and misusing these substances. Since alcohol is a legal drug consumed by the majority of the population, and narcotics are illegal drugs consumed by a minority of the population, it is not strange that such differences exist.

Sweden is known for its very restrictive and even repressive drug policy, which has the ultimate goal of eradicating all drug use (Prop. 2005/06:30), and which labels all drug use as abuse (Tops, 2003). The claimed success of
the Swedish model has been seriously criticized and challenged over recent years however (Olsson et al., 2011; Tham, 2005). In spite of this, there is still strong support for maintaining a restrictive drug policy among both politicians and the general population (Fries, 2007). Since drugs are in general perceived as being much more damaging to a society than alcohol, both for the individual and his or her family, and since drugs are viewed as contributing to a great deal of crime, the level of acceptance for a number of different restrictive drug policy measures is high. Swedish alcohol policy is also restrictive, as has previously been noted, but in other, less intrusive ways. Policy measures focus for the most part on reducing the supply and accessibility of alcohol. Moreover, there is relatively strong support among the general public in Sweden for maintaining the state retail monopoly (e.g. Systembolaget, 2011).

There is in addition a tendency to view alcohol as a private matter, with how much one drinks ultimately being up to the individual unless harm is done to others. This is not the common view in relation to drugs. These differences between alcohol and drugs thus affect the policy measures and countermeasures that are perceived as being legitimate and justifiable. One example, with the workplace in focus, can be found in a Swedish Labor Court case from 1996, which involved a female office cleaner working at a nuclear power plant in Oskarshamn who refused to be tested in the compulsory alcohol and drug testing program that had been introduced at the workplace (Arbetsdomstolen, 1998). The office cleaner’s union argued that the tests were in breach of “the right to respect for private and family life” as outlined in Article 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms (today called European Convention of Human Rights). The Labor Court ruled that the complainant was obliged to participate in drug testing but not in alcohol testing. The Court believed there was a fundamental difference between alcohol and drugs, since alcohol is legal and socially accepted. The drug testing could not be viewed as a violation of integrity and was also justified considering the potential hazards at the workplace. Moreover, alcohol tests were viewed as being more unreliable, and a positive result would therefore have to lead to further investigation of the employee, with alcohol consumption being a highly sensitive area involving a risk of integrity violations. The case was later appealed to the European Court of Human Rights in 2004, where the application was declared inadmissible (European Court of Human Rights, 2004), with the Court confirming and approving the ruling of the Swedish Labor Court. It is thus evident that alcohol and drugs are also viewed differently in these respects. What is noteworthy is that the Swedish Labor Court claimed that there might be a significant difference between alcohol and drugs in terms of risks at the workplace. They do not state how, but given the wording of the ruling and the outcome of the case it is obvious that drugs are viewed as constituting a greater risk. This should be
viewed in light of the fact that in a working population, where substance abuse problems exist, the vast majority of these problems come from alcohol and not drugs, given the overall ratio between alcohol and drug use. Around 90 percent of the population consume alcohol on a regular basis (Ahacic et al., 2012) whereas regular drug consumers, for example estimated on the basis of how many 16–84 year olds have used cannabis during the last month, amount to approximately 1 percent (CAN, 2012). Privacy and integrity issues are thus core elements when it comes to alcohol, while in relation to drugs many are willing to accept almost any control measures to combat this posited plague, such as drug testing at workplaces or schools, surveillance and bugging. These kinds of measures would not be politically possible in relation to alcohol.

The accepted control measures thus differ between alcohol and drugs. Although many control measures may be described as prevention, the more explicit prevention measures used today, such as information and education programs exhibit a number of similarities across their use in relation to the subjects of alcohol and drugs. Information campaigns and education programs have been described as methods that are not effective in themselves, but which serve as a means of obtaining support for a restrictive drugs policy (Sahlin, 2011). This can most probably also be said about alcohol. A number of information campaigns over the years have had the ultimate aim of increasing support for the retail monopoly, for example (Ekström & Hansson, 2010). The topic of alcohol versus drugs arose in the interviews in both Paper I and IV, and although this issue was not specifically analyzed and reported in the papers, there was a tendency towards participants viewing drugs as being more interesting than alcohol, and several wanted to learn more about drugs. This curiosity is not something directly related to themselves and their immediate surroundings, however, but is rather a reflection of the fact that little is known about drugs, which perhaps makes them both exciting and horrifying.
THEORIES AND CONCEPTS

This section presents and discusses key concepts and provides a theoretical background to, and previous research on, alcohol prevention in general and alcohol prevention at workplaces in particular. How these kinds of measures can be viewed and understood in the modern age is also discussed.

Prevention

Prevention is a multidisciplinary subject and as a concept it is surrounded by a certain vagueness, and is not always simple to define (Sahlin, 2000; Starfield et al., 2008; Weissberg, Kumpfer & Seligman, 2003). A lot of activities, regulations and social policy measures can be described as prevention. Specific interventions, reducing inequities and inequality in a society, legal regulations, education programs, health promotion, creating meaningful leisure activities, investments in schools and sports, are all examples of measures that are or have been described as prevention. The identification and elimination of all the elements that engender deviant behaviour in the physical and social environment is also a crucial task for universal prevention (Lab, 2007). The list can be made very long and most measures are also applicable to a large number of unwanted behaviours, e.g. alcohol and drug abuse, mental disorders and criminality. However, the most common use of the concept involves viewing prevention as something that is done in an effort to prevent something unwanted from happening in the future, and it is in this sense that the term is used in this thesis.

Besides social policy measures, which aim to prevent negative consequences for the individual or society at a more general level, specific prevention might crudely be divided in two parts; motivational and situational prevention (or the somewhat related concepts of demand and supply). Motivational prevention involves measures which focus on affecting the individual and the personal motivations and intentions that lie behind the behaviour in question. Situational prevention is more of a structural measure and aims to affect the drinking- or crime-related situation and physical context, for example, or to reduce the opportunities for engaging in the unwanted behaviour. Situational prevention is more often used in the field of crime prevention, but occasionally also in that of alcohol prevention (Warpenius & Holmila,
In the case of alcohol prevention, this might involve the use of different methods to reduce and prevent alcohol-related incidents at bars and pubs, for example. At the workplace, a situational preventive method might be to reduce the amount of alcohol that the employer pays for at work parties or to make sure that there are enough non-alcoholic drinks available. Motivational prevention, of which alcohol education programs constitute one example, has attracted more and more attention as a result of ongoing alcohol policy changes.

How prevention is viewed, and what prevention is, has changed over the years. Sahlin (2000) writes about these changes in relation to crime prevention and argues that prevention has evolved from a focus on structural-level measures to a focus on socialisation, to controlling the individual. The structural measures that sought to create a good, equal and safe society for citizens, particularly during the formative years of childhood and adolescence, were previously more openly discussed as being preventive of various social problems. Today the discourse is different and few propose general and broad social policy measures as being preventive. According to Sahlin, these changes might result in an “inverted prevention” (Sahlin, 2000, p.35). This means that when structural-level measures, such as investments in nursery schools, schools and after-school centres and activities, for example, are considered less important as preventive tools, and less money is spent on these types of measures, unwanted behaviours might in fact increase. It is however very difficult to study what consequences the dismantling of the welfare state and the weakening of public policy and its associated prevention-related consequences have produced.

The trend described by Sahlin (2000) can in some respects also be seen in the alcohol policy field. Alcohol prevention has shifted from being a powerful state-governed policy based on measurements made at the structural level towards a focus on more individualised measures. There are two different sets of changes that might affect alcohol consumption in a negative direction; a general weakening of social policy measures and a reduction in the regulation of alcohol. Estimating how much these developments may have contributed independently or in combination to any rise in crime or alcohol problems is a complicated issue, but it is reasonable to believe that they do have an impact. Both developments can thus of course also affect crime. The link between crime and alcohol is well-established (Lenke, 1990; Norström, 1998; Room & Rossow, 2001; Rossow, 1996). For example, it has been estimated that, statistically speaking, alcohol accounts for approximately 50 percent of all murders and 40 percent of all assaults (Norström, 1998). Another evident association between alcohol and crime is found in the form of drink-driving.
Alcohol prevention and alcohol policy have thus been subject to major changes and challenges. These developments are not new, but there is nothing to indicate that the direction of alcohol policy or social policy will be reversed. Rather, there are tendencies towards the opposite; we have seen a further weakening of social policy measures during recent decades (Olsen, 2013) and alcohol policy will continue to face the demands made by a market-oriented and globalised world. It will be more difficult to apply, and to acquire legitimacy for, structural-level measures which aim at strengthening the regulations on the price and availability of alcohol. In the context of this changing prevention landscape, the information/persuasion strategy, e.g. in the form of educational interventions, has been described as being on the way to becoming one of the most important alcohol policy measure in most western societies (Bergmark, 2004). It is plausible that measures like these will come to be seen and implemented increasingly often, in spite of their often meagre results.

Different types of prevention

Two sets of classification systems for prevention have been most dominant. The most widely known classification system dates back to the 1950s and consists of three types of prevention; primary, secondary and tertiary (Commission on Chronic Illness, 1957). Primary preventive measures were defined as having the aim of decreasing the number of new cases of a disorder or illness in the population. Secondary preventive measures had the aim of lowering the rate of established cases of the disorder or illness in the population. Tertiary preventive measures aimed at decreasing the level of disability associated with an existing disorder or illness (Mrazek & Haggerty, 1994). The terms have however been employed somewhat differently, and the term secondary prevention in particular has been used to describe measures directed at individuals who have symptoms of an illness, for example, but who do not fulfil diagnostic criteria. That is, the term secondary prevention has not been used exclusively for interventions aimed at lowering the rate of established cases, but also for borderline cases (e.g. Babor, Ritson & Hodgson, 1986; Kivlahan et al., 1990), by means of different forms of early intervention.

A new classification system was proposed in the 1990s. The need for a new system arose since it was believed that the concept of prevention should be reserved for interventions that occur prior to the initial onset of a condition. The new classification system outlined three prevention types; universal, selective and indicated (Mrazek & Haggerty, 1994). This is also the classification system used in this thesis, and the three prevention concepts are thus not used to describe measures directed at individuals who have alcohol prob-
lems of such a magnitude that they fulfill the diagnostic criteria for alcoholism. The concepts were initially constructed for the prevention of mental disorders, but the terminology has also made its way into the alcohol and drugs field (Karlsson, 2006). Universal preventive measures, which at times may be comparable to primary prevention (Mrazek & Haggerty, 1994), are defined as measures that target the general public or a whole population group that has not been identified on basis of individual risk. Selective preventive measures target subgroups of the population where the risk of developing a disorder is higher than average. Finally, indicated preventive measures target high-risk individuals who have minimal signs or symptoms that foreshadow a given disorder (Mrazek & Haggerty, 1994).

All three prevention types have been described as having the same overall aim: reducing the occurrence of new cases. To accomplish a reduction in the number of new cases, e.g. alcohol problems, somewhat different goals are required for the groups outlined in the classification of universal, selective and indicated prevention. Since the categories are clearly separated in the original definition but not in practice, and since they sometimes overlap, the model below constitutes an attempt to provide a clarification of the three prevention categories in relation to the target groups and the desired outcomes associated with an intervention. Prevention strategies are rarely this clearly framed, however, and the model should be viewed as a tool, or an ideal type, for separating the concepts.

The model refers to prevention measures whose goal is to retain normal and non-harmful alcohol consumption or to accomplish some form of behavioural change in order to facilitate a return to non-harmful alcohol habits. In other words, the model relates to measures which involve a motivational preventive approach. It is not equally applicable to structural and situational preventive measures. It should further be noted that risk groups such as pregnant women, pilots or drivers lie outside this model. These are groups where the aim of prevention is usually to prevent drinking on certain occasions or at certain times, such as during pregnancy or when operating aircraft or cars, as a result of the potential risks to a third party. These are not groups that are at higher the risk of developing a disorder. For other groups, such as employees at restaurants and pubs, or college students, who have an above-average alcohol consumption (Andréasson, 2003; Ståhbrandt et al., 2003), the model does apply, since the motive for prevention is that of influencing their alcohol habits in order to prevent future negative consequences for themselves personally. The term target group refers to the group at which the prevention is directed and the term risk group refers to groups where the risks are higher than average. A certain risk group may thus be the target group for an intervention.
Desired outcomes:

Overall aim for the entire populations (in A, B or C): to reduce the occurrence of new cases.

Specific aims for subgroups within A, B or C in order to reduce the occurrence of new cases:

1: Moderate consumers: Reinforcing status quo
   A. Universal (everyone, e.g. general population, a workplace, a school)
   B. Selective (risk groups, e.g. restaurant staff, certain teenage groups, college students)
   C. Indicated (risk individuals, i.e. anyone with very excessive alcohol consumption)

X X n.a.*

2: Risk consumers: Minor behavioural change

X X n.a.

3: Problematic consumers: Major behavioural change

X X X

*not applicable

When the target group is an entire population, whether it is the general population, a university or a workplace, the population comprises a variety of individuals with different consumption patterns. A universal approach (A) can thus reach moderate consumers, risk consumers and problematic consumers. In this population, abstainers are also included. Besides the more general aim of preventing problems in the entire targeted population, the ideal outcome of universal prevention is that moderate consumers will remain moderate consumers (reinforcing the status quo), risk consumers will modify their drinking somewhat, e.g. reducing the amounts consumed or binge drinking less frequently (minor behavioural change). The more problematic consumers, not yet labelled “cases”, should reduce their drinking significantly or alter their consumption patterns in a less hazardous direction in order not to develop alcohol problems (major behavioural change).
The target group for selective prevention (B) is by definition comprised of risk groups. Usually this means that the risk group is identified on basis of background factors and previous research on risk factors (Kumpfer, 1998), but those who drink at a level that is characterized as risky also constitute a group with a higher risk for developing problems (where minor behavioural change is desired). A selective approach is thus directed towards everyone in a specific risk group. As in the universal approach, the selectively targeted groups includes normal consumers, risk consumers and problematic consumers and the same outcomes are desired as were described in relation to the universal approach.

Finally, an indicated approach (C) by definition never targets the entire population or risk groups. This is a type of intervention that is based on individuals and individual risk. Employees with alcohol consumption that causes problems or who are showing early signs of abuse might be identified during routine health check-ups by occupational health services (OHS), for example by means of blood tests to examine liver function and/or self-report instruments such as AUDIT (Alcohol Use Disorders Identification Test). In this group a more significant behavioural change is the goal.

It should however be acknowledged that even those with manifest alcohol problems (outside the model) could theoretically benefit from all the types of intervention included in the model. The reason for this is that alcohol dependent individuals do not always need treatment or professional help to recover. The field of self-change has become strong over the years and it has been shown that a large proportion of all recoveries from alcohol problems are not aided by professional treatment (Blomqvist, 2007; Cunningham et al., 2000; Klingemann & Carter-Sobell, 2007). These natural recoveries are mostly dependent on circumstances in the alcohol dependent person’s life, however, such as key events, situational change, personal crises, pressure and or support from significant others, or health problems (Blomqvist, 2002). Increased knowledge on alcohol is most probably never a determinant factor in producing change among alcohol abusers, but in combination with other prerequisites for change it can be argued that taking part in education programs might contribute to the decision to change.

The underlying assumption of the model is that the same type of universal or selective interventions, which are often directed at groups rather than individuals, may be appropriate and effective for all individuals, although in different ways, regardless of consumption patterns. Whether this works in reality is uncertain and these are perhaps issues that need to be addressed when designing preventive interventions. It might for example be possible to include different types of elements in a universal measure that are directed towards different subpopulations in the intended target population. On the
other hand, it is more possible to tailor interventions such as brief interventions and motivational interviewing to the specific individual and his or her problems, once the individual is identified. At a workplace, one possible way to identify risk groups is to base this risk assessment on consumption patterns. It would not however be practicable or appropriate to choose a specific group based on background characteristics or consumption patterns and then direct an intervention at this group. This is also why a universal preventive approach is the least sensitive, since no identification of individuals is carried out.

The education programs conducted in the studies in this thesis were directed at all employees at the relevant workplaces, with the ambition being to prevent alcohol problems among everyone in the long term, but also to achieve some level of behavioural change among those with a risky or problematic consumption; that is, the entire spectrum of desired outcomes outlined in the table under the universal preventive approach. This is also why the effect studies included stratified analyses focused on different consumption groups. Performing stratified analyses in relation to interventions directed at entire populations have also been stressed as important (Sandberg, 2011). However, since most employees who answered the questionnaires had an alcohol consumption that could be labelled as “normal”, it was not possible to perform analyses on the three groups: moderate, risk and problematic consumers. Instead, comparisons were made between low-level consumers and those with the highest levels of consumption.

Risk consumption and low-risk drinking guidelines

One important concept that is often applied in alcohol education programs is risk consumption. This is a somewhat controversial topic and there is no real consensus among researchers and practitioners as to what constitutes risk consumption. The disputes concern both what the risks are, the reasons these are considered risks and the level of consumption or the type of consumption pattern in which the risk appears. Another phenomenon connected to risk consumption is low-risk drinking guidelines (LRDG). Guidelines on low-risk drinking, or sensible drinking, have attracted increased levels of attention over recent years and “the appetite for communicating such advice continues to grow […]… there is likely to be a pressure eventually for some kind of international consensus” (Stockwell & Room, 2012, p.124). There is thus still no real consensus on guidelines and they have varied over the years and between countries. The most current and comprehensive research-based recommendations from the international literature are from Australia and Canada. For example, in the relevant Australian report, from 2009, it was concluded that one should never drink more than 2 standard drinks per day.
and never more than 4 standard drinks on a single occasion (National Health and Medical Research Council, 2009). In Australia, one standard drink is the equivalent of 10 grams of alcohol, which corresponds to 10 cl of wine, for example. These recommendations are the same for men and women. It has even been suggested that the risks for men, when it comes to injuries, are actually higher since men engage in risky behaviour more often than women, both when drunk and when sober (Room & Rehm, 2012). The Canadian recommendations present different advice for men and women however (Stockwell et al., 2011).

In Sweden, men and women are given different recommendations. The latest Swedish guidelines from the National Institute of Public Health are stated as a maximum of 14 standard drinks per week for men and 9 drinks per week for women and a daily maximum of 2 drinks for men and just over 1 drink for women (Andréasson, Allebeck & Leifman, 2005). A standard drink is 12 grams of pure alcohol, which corresponds to 12–15 cl of wine for example. Binge drinking is regarded as more than 5 drinks on a single occasion for men and 4 drinks for women. According to the Swedish National Institute of Public Health (FHI), these guidelines provide a definition of risk consumption, since all consumption over the recommendations constitutes risk consumption and all binge drinking is risky consumption by definition (Andréasson et al., 2005). Guidelines such as these aim to prevent risky single heavy-drinking occasions as well as the long-term risk for chronic diseases (Rehm & Patra, 2012). Researchers are well aware of the fact that all guidelines are simplifications and that the picture is actually more complicated, since many factors contribute to the effects that alcohol produces, such as body weight, food intake, general health status and drinking context etc. The purpose of guidelines can only be accomplished however if the recommendations are simple and easy to remember.

The criticism against using guidelines at all has been of a different character. It has been suggested that there is a danger in people “drinking up” to specified levels, which could actually lead to an increase in alcohol consumption per capita (Hawks, 1994). This is also one of the reasons behind the reluctance to actively publicise low-risk drinking guidelines in Sweden (Bendtsen et al., 2011). It has also been suggested that focusing on guidelines, the effectiveness of which as a preventive tool as yet remains unproven, deflects attention from more effective public policies (Casswell, 2012), thus possibly causing more harm than good. Another criticism is that guidelines might be perceived as a rather paternalistic measure introduced by a ‘nanny-state’, a government telling people what to do (Daube, Stafford & Bond, 2008). The evidence on the effects of guidelines is also scarce (Stockwell & Room, 2012) and in Sweden, levels of knowledge in the population about standard drinks and risk levels are low (Bendtsen et al., 2011), which is also the case for...
in the UK, for example, (de Visser & Birch, 2012) and Australia (Livingston, 2012).

The use of guidelines constitutes a clear example of the so called ‘new public health’ approach (Casswell, 2012), which promotes ideas about individuals’ assuming responsibility for their own health. Alcohol education programs and other informational campaigns constitute core elements in the transmission of information on low-risk drinking, which was also one of the elements included in the education programs evaluated in this thesis.

New public health and risk society

Alcohol education programs at workplaces, like those described in this thesis, and the repeated requests from the state to perform these kinds of activities can be viewed and understood from several related theoretical perspectives, which are briefly addressed in this section; new public health, the risk society perspective and governmentality in advanced liberal democracies. The subsequent section provides a discussion on how this kind of prevention approach can be understood in terms of the desired outcome – behavioural change.

If supplied with correct information on health risks, individuals are expected to (be able to) make the best decisions regarding their own health. Contemporary western societies are becoming more and more individualized and lifestyle focused. This does not only relate to alcohol consumption, but also to weight, smoking, exercise and so forth (Petersen & Lupton, 1996). Ideas of this kind have become known as the ‘new public health’. These health threats are believed to be within the individual’s control as opposed to the old public health where the focus was rather directed at threats such as pollution and contagions that were beyond the control of the individual (Bell, McNaughton & Salmon, 2011). The new public health thus places a greater focus on personal responsibility for one’s own health by means of exercising self-control and choosing a healthy lifestyle. The notion of ‘excess’ has become embedded in the field of public health (Coveney, 2011). Excess is connected to the so called “good life” that has been blamed for many of the health problems of today, and which besides having health effects is also said to be contributing to damaging environmental effects (Coveney, 2011). As for alcohol, the ideal is the moderate drinker or ‘continental drinker’ (Olsson, 1990; Room, 2011) – a drinker who can control his or her drinking and who can remain sober when required. A ‘continental drinker’ means someone who drinks rather frequently but small quantities and preferably never binge drinks. In a sense, this is also part of the ‘good life’ since enjoy-
ing fine wines with good food (without excess) is portrayed as being both classy and desirable.

Being aware of and managing risks in all kinds of areas has thus become crucial. And in parallel with new public health, we also find the concept of the ‘risk society’. This term has been used by Anthony Giddens and Ulrich Beck (Beck, 1992; Beck, Lash & Giddens, 1994; Giddens, 1999), who both see risk as central to modern culture and societies. Individuals are provided with risk information in various areas almost on a daily basis. The flood of sometimes contradictory risk information is something that individuals are expected to appreciate and incorporate and to make the best of in terms of their own health and safety. Societies of today have been described as being increasingly preoccupied with the future and this is what is generating the notion of risk (Giddens, 1999). And ideas about the future include visions about what constitutes a desirable future alongside ideas about what poses a threat to achieving this future. Managing risks also constitutes part of a desire to control and predict the future. Risk is closely associated with responsibility and the new types of risks that have emerged are to a greater extent dependent upon individuals’ decisions. The use of alcohol education programs often implies a high level of risk focus and a call for making good decisions once provided with risk information. Alcohol information is also typically laden with contradictory messages, an example being the inherent contradictions between messages focused on certain aspects of the dangers of alcohol and the recent claims about the positive effects of moderate alcohol consumption (Bergmark, 2004).

New public health can be said to represent a form of neoliberal governance that decentralizes power and responsibility. Nikolas Rose has written on new forms of governmentality in advanced liberal democracies (Rose, 2000), and argues that the state does not have the power or mandate to act as the ultimate provider of security but is rather expected to act as a partner or facilitator in relation to independent agents. “…advanced liberalism asks whether it is possible to govern without governing society, that is to say, to govern through the regulated and accountable choices of autonomous agents—citizens, consumers, parents, employees, managers, investors” (Rose, 1993, p.298). The decentralization of alcohol policy and the focus on workplaces reflect this type of governance. Both the risk society and the governmentality described by Rose rely upon expertise. A whole new arena for experts has emerged and is being called for and supported by the state. A legitimate expert is someone who possesses the truth and whose techniques for producing a certain outcome have been labelled as effective, which leads to evidence-based practices becoming even more important.
Risk knowledge and behaviour

The basic idea behind alcohol education programs is that with increased knowledge about alcohol and associated risks, individuals are expected to make informed choices regarding their alcohol consumption. They know the risks. They know the limits. Within the new public health approach, this can be described as a way of decreasing the state’s interference in people’s lives, and the state cannot be held accountable for the individual health of its citizens. The information has been provided and it is up to the individual to succeed or fail in the quest for good health and personal safety. Human behaviour is of course more complex than this and is dependent on many more factors than knowledge alone. As is shown to some extent in the two effectiveness studies presented in this thesis, as well as in previous research: increasing knowledge is not enough to change behaviour. In one of the evaluations it was possible to note a reduction in the frequency of binge drinking among those employees who had the highest levels of consumption. However, this was not seen in the group as a whole or in the other evaluation, which was conducted at a different workplace. This indicates a small behavioural change in one sub-population. Health education programs tend to increase knowledge and awareness but education-only programmes rarely lead to actual behavioural change (Loxley, Toumbourou & Stockwell, 2004). Although the education programs studied in this thesis did not rely on any specific theory of behavioural change, this type of educational approach includes elements from several different theories. There are numerous behavioural change theories that focus on health. I have chosen to present the two that I find the most relevant in relation to the basic ideas that underlie the education programs examined and their content, and which are also the most relevant as regards their usefulness in explaining why alcohol education programs often fail to change behaviour. These are the Health Belief Model (HBM) and the Integrated Behavioural Model (IBM).

The Health Belief Model (Becker, 1974; Rosenstock, Strecher & Becker, 1988) is one of the oldest health-related behavioural change models (Champion & Skinner, 2008). Four dimensions are described in the HBM; susceptibility, severity, benefits and barriers (Janz & Becker, 1984). If we were to focus on alcohol dependence as the relevant unwanted outcome, for example, ‘perceived susceptibility’ would mean how vulnerable the individual thinks he or she is to becoming alcohol dependent, while ‘perceived severity’ would mean how severe a problem an individual believes alcohol dependency to be. The combination of susceptibility and severity has also been referred to as ‘perceived threat’ (Champion & Skinner, 2008). ‘Perceived benefits’ involve how effective the individual believes a specific course of action to be (in this case reducing alcohol consumption) in relation to avoiding becoming alcohol dependent. The term ‘perceived barriers’ relates to the
negative consequences that the individual believes that reducing alcohol consumption might have. The required health action, e.g. an alcohol education program, followed by a reduction in consumption, might for example be regarded as unpleasant, expensive or time-consuming (Rosenstock, 1974). Reducing the frequency of drinking or the amount consumed might lead to the loss of certain friends or of access to specific social gatherings. All of these dimensions of the HBM affect whether individuals will change their behaviour in order to avoid the unwanted consequences.

The Integrated Behavioural Model (IBM) constitutes an extension of the Theory of Reasoned Action and the Theory of Planned Behaviour, but it also includes some elements from other theories (Montano & Kasprzyk, 2008). This theory includes the individual’s intentions and motivations to engage in the behaviour in question as an explanation for why health-related behavioural change does or does not occur. Intentions are in turn affected by attitudes towards the behaviour, how the individual perceives the social norms surrounding the behaviour and finally personal agency, i.e. how much control individuals feel they have over the behaviour in question and how confident they are about their ability to perform the behaviour. This is also called self-efficacy, a concept originally developed by Albert Bandura (Bandura & McClelland, 1977; Bandura, 1977). Self-efficacy is most often regarded as crucial in order to achieve behavioural change (Strecher et al., 1986).

Further, for an individual with the intention to change certain health behaviours to actually change their behaviour, knowledge and skills are required. There should not be any environmental constraints that make behavioural change difficult and the behaviour should be salient, which means that it should be present and not easily forgotten. In addition to this, the actions taken to change behaviour should be repeated and become habitual (Montano & Kasprzyk, 2008).

In the case of an alcohol education program conducted at the workplace, these models are of relevance in several respects. First of all, alcohol education programs, irrespective of where they are performed, often have the purpose of increasing knowledge about alcohol and of changing norms and attitudes towards alcohol. If this is achieved, the motivation and intentions to change one’s behaviour might increase, which would in the end hopefully also lead to actual changes in behaviour. It should however be noted that while prevention might mean behavioural change, of either a minor or major nature, it might also mean reinforcing the status quo, i.e. ensuring the retention of healthy alcohol habits, with no change being required. In this sense it becomes more difficult to apply behavioural change models. Since most employees do consume alcohol moderately, or within safe limits, the latter goal becomes the most important one in relation to alcohol education pro-
grams at workplaces. To my knowledge there are no theories about how and why individuals choose to drink wisely. The explanation is probably of a common sense nature. This means that individuals tend to relate to alcohol, as they do to other health behaviours, with at least some level of consciousness and intent. How one consumes alcohol, what one consumes and how much one consumes are issues that many people have opinions about, and they are behaviours that are associated with certain norms and values in relation to which both personal attitudes and social context play a part.
SUMMARY OF THE PAPERS

This section briefly summarizes the four papers and their main results. In the following section more specific details are presented about the different studies’ materials, methods and analytical procedures.

Paper 1: Alcohol prevention in the Swedish workplace – who cares?

The aim of this study was to study workplace prevention in a very exploratory fashion and from a number of different perspectives. More specifically, the aim was to investigate what interest there is in working with workplace alcohol prevention among employers, employees and union representatives, and how different actors at the workplace perceive and define alcohol problems and prevention. Another aim was to find out what actual actions exist in the field of workplace prevention programs, e.g. in the form of policies and testing. This study involved the collection of several different materials for somewhat different purposes; focus group interviews with employees, a study of policy documents from a number of workplaces, telephone interviews on the topic of alcohol and drug tests and interviews conducted at sixteen companies in Sweden with personnel managers, employees (in focus groups), union representatives, and in some cases the company’s healthcare department.

The interest in universal prevention was in reality not that strong. The participants, both the employers and employees included in the different studies in this paper, believed that a responsibility on the part of the employer arises first and foremost only when there is a manifest alcohol or drug problem, and that there is not really very much that the company can do to prevent people from using alcohol or drugs. In relation to this, most did not perceive alcohol as a particularly serious problem at their workplaces and it was difficult to grasp what prevention might actually involve. This seems to affect whether or not prevention is viewed as being needed. Alcohol problems were defined as an individual problem and alcoholism was viewed as constituting the real problem, while at the same time alcohol was generally viewed as a very sensitive topic. The topic of universal prevention was thus not very
prevalent at all during the interviews and instead the discussions came to revolve around measures of a selective and indicated nature. Further, most of the employees had never heard of their employer’s alcohol and drug policy. The 121 policies that were studied manifested a large degree of similarity and in most cases appeared to be copies of some standard policy model and were rather vaguely formulated. In the telephone interviews on alcohol and drug tests and other preventive measures, it was found that 36 percent employed some form of testing and that the most common tests used were alcohol tests conducted when a suspicion of alcohol consumption during work hours arose. Twenty-five percent of the companies with more than 100 employees did not have a written alcohol and drug policy. It is somewhat surprising that twenty-seven percent of those who claimed during the interviews to be using some form of testing made no mention of such tests in their policies. Thirty-three percent of those who said that they did not employ alcohol and drug tests did refer to the use of tests in their policies. This clearly indicates that alcohol and drug policies do not constitute a regularly updated and well-known working tool for either the employers or the employees. When discussing prevention, the employers spoke more about rules and regulations, whereas the union representatives and employees also mentioned the importance of having a good work climate, of enjoying one’s work and of having an open dialogue. How much an employee drinks outside working hours was regarded as a sensitive and private topic.

Paper II: The workplace as an arena for universal alcohol prevention – what can we expect? An evaluation of a short educational intervention

The primary aim of this study was to evaluate whether a short alcohol education program provided to all employees (N=202) at a company in Stockholm, Sweden had any effect on alcohol consumption and alcohol-related knowledge. All employees participated in two 45 minute seminars on alcohol and risks. The paper discusses the increasing pressure placed on employers to work with alcohol prevention and on the concurrent problems of implementing and evaluating these types of interventions in the real world. Pre- and post-test questionnaires were employed in a quasi-experimental design using a convenience sample drawn from two companies: one intervention and one control. The pre-test was distributed by means of web-questionnaires to both companies prior to the education program and the post-tests were distributed six months and twelve months later. Data were analyzed using repeated measures ANOVA-tests focused on the participants’ AUDIT-scores, frequency of binge drinking and alcohol-related knowledge. Alcohol-related knowledge was measured on the basis of three questions.
The study found significant improvements in the employees’ alcohol-related knowledge, but there were no significant effects on alcohol consumption. The study’s results confirm most previous findings, but they also point to the importance of considering the value of educating all employees and the willingness of employers to initiate preventive measures. Evaluating interventions of this kind is complicated, and it is also difficult to find results showing behavioural change in populations whose alcohol consumption is moderate.


The aim was to investigate whether a day-long alcohol education provided to all persons employed by a Swedish municipality (N=872) had an effect on alcohol consumption among all employees and among employees with low and higher levels of consumption respectively. A quasi-experimental evaluation was conducted using pre- and post-test questionnaires. The municipality’s employees were divided into one intervention group and one control group. The control group attended the education six months later than the experiment group, which meant that the follow-up was conducted six months after the experiment group had attended the program, just prior to the control group’s turn. Repeated measures ANOVA tests were conducted in relation to AUDIT-scores and three separate AUDIT-items; frequency of drinking, frequency of binge drinking and the typical amount consumed per drinking occasion.

There was no significant effect on alcohol consumption in the intervention group as a whole. Stratified analyses showed that the intervention had a significant effect on reducing the frequency of binge drinking among those with the highest consumption. These employees cannot however be described as high-level consumers. By contrast with many other studies on alcohol educations, some behaviour-related effects were found when stratified analyses were conducted. It is difficult however to speculate about whether these results can be generalized to other working populations.
Paper IV: An eye opener, but mostly for others: employees’ perceptions on workplace alcohol education programmes

Very little research has been focused on the recipients of alcohol education programs. This is an important topic however, since if alcohol and drug education programs rarely lead to behavioural change and if at the same time the participants find these kinds of education programs and the type of information they provide non-useful or inappropriate, it would be hard to argue for the importance of education programs at all. But if the participants find the information provided useful and interesting it could be argued that these kinds of education programs may have some value, even if no immediate effects on alcohol consumption can be found. In the public health perspective, where individual empowerment is considered important, providing individuals with useful and (hopefully) accurate information on alcohol, health and risks is believed to benefit and protect them over the long term. The aim of this study was to examine the rarely-heard opinions of participants in alcohol education programs with a focus on the employees at three workplaces.

What opinions were found about the initiative, its content and effects, and what underlying ideas were these opinions derived from? The studied material consisted of ten group interviews and responses to a questionnaire (n:298) that included both questions with fixed response alternatives and open-ended questions. The data were analysed using thematic analysis and frequency tables.

The alcohol education programs appeared to be perceived as both legitimate and relatively unproblematic. Most opinions related to the basic approaches employed in alcohol education programs at a more general level; there should be no lecturing and no moralizing, and the contents and the lecturer should be trustworthy. One important finding is that education programs such as these are perceived as being useful, but mostly for others. These opinions appeared in particular to be related to two overarching themes: paternalism and beneficence. Some level of paternalism can be accepted if it is perceived as providing benefits for others. The results in this study provide some idea of the value placed on education programs of this kind from the participants’ perspective. Alcohol education programs are perceived as being important and justified since they benefit the good of others, constituting an eye-opener for those at risk. If the education program is presented as being health promotive rather than risk reducing it is more likely that it will be perceived as relating to everyone, and not only “the others”. The study re-
sults may be of relevance to those planning and performing many types of health education programs.
MATERIAL AND METHODS

This thesis is based on data from two different web-questionnaire studies and data acquired by means of telephone interviews, group interviews, focus group interviews, individual interviews and alcohol policy documents. The emerging field of mixed-methods research has attracted a great deal of attention. Mixing methods and data to study a certain phenomenon is nothing new, but what is new and emerging is the launching of this field as a specific research paradigm with its own methodology and terminology. Mixed-methods research has been defined as: “The class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p.17). The term has however been defined and applied very differently (Rossow & Baklien, 2011). Exactly what is mixed varies. It may be types of data (quantitative or qualitative), it may be data collection strategies (e.g. questionnaires and interviews) and it may be data analysis methods (e.g. using interviews for both thematic analysis and to examine frequency distributions). Mixed methods is said to refer to a situation where either qualitative or quantitative methods are used in a series of sub-studies on a certain delimited topic in a research project, or one where the two methods are combined in a single study. Thus in the latter case, the results from both quantitative and qualitative materials and analyses are used to answer the research questions in a single study and this is considered more of a “true” mixed-methods design than cases where different methods are used in parallel studies on the same topic. Using mixed methods in the alcohol and drug research field is not very common, however, although it is on the increase (Demant & Frank, 2011).

This thesis applies both quantitative and qualitative methods, both separately and in combination or integrated with one another. In Paper 1, quantitative and qualitative methods are used side by side in the different data sets and were initially employed to answer somewhat different questions. However, the conclusions drawn in the paper are derived from all of the data that were collected and all of the analyses conducted. In the studies presented in Papers II and III, quantitative data were collected. Paper IV applies both quantitative and qualitative methods in the analysis of the research questions, although the qualitative material from interviews constituted the main focus of inquiry, while the quantitative questionnaire data were used to get a sense
of the generalizability of the findings. The four papers included in the dissertation have thus applied various methods to approach the overarching question of how the expectations associated with workplace prevention might be viewed. In this sense, the thesis as a whole can be described as utilising a mixed-methods approach. The overall conclusions of the thesis are drawn from both purely quantitative and purely qualitative studies, as well as studies including both qualitative and quantitative elements.

**Multi-material study (Paper I)**

A variety of data were used in this study. By using results based on several different data sources, a broader picture may be produced, and it is hoped that more accurate and nuanced conclusions can be drawn (Johnson & Onwuegbuzie, 2004). Four data sets were collected for various purposes, and the paper analyses these data sets (referred to in the article as sub-studies) side by side in order to answer the overarching research questions.

In two of the sub-studies, focus group interviews were conducted. Using focus groups is a way of obtaining information from a group of people by focusing on group interactions and the participants’ own discussions (Barbour & Kitzinger, 1999; Morgan, 1988). Jenny Kitzinger wrote, “The idea behind the focus group method is that group processes can help people to explore and clarify their views in ways that would be less easily accessible in a one to one interview” (Kitzinger, 1995, p.229). The researcher should be as passive as possible and should only be there to assist in the discussions when needed. In this case the groups consisted of approximately five individuals, all of whom knew each other as co-workers. Co-workers have a shared experience and knowledge on how their workplace functions and on the culture of the specific workplace, which includes, for example, values, traditions and management practices.

In the first sub-study, six focus group interviews were conducted with employees at workplaces with a high density of young people, but which differed from one another in terms of the social status of the workplace in society, the employees’ work-situation, the experience of having a monotonous job and the extent of employee self-determination. The choice of workplaces was based on findings from an earlier study conducted by the Alna Council (Alna, 1999). The Alna Council is a Swedish organization that works with alcohol and substance abuse at workplaces. That study showed that men in commercial business (sales staff) and male shop assistants have significant higher alcohol consumption than the average, and that the same is true of women working in the media (journalists), in the advertising sector and in office work. The groups chosen for interviews comprised female journalists,
male white-collar workers in the computer business, female sales-assistants working in a clothing shop, male sales-assistants working in an electronics store, female shop assistants at a supermarket and male shop assistants at a supermarket. Managers at a number of workplaces with these occupations were contacted with the proposal to conduct interviews.

The second data set was collected in order to investigate how common the use of alcohol and drug tests were, and whether any other preventive initiatives had been taken. The material consisted of 301 telephone interviews with employers or personnel managers drawn from a random sample of Swedish workplaces with over 100 employees. It was determined that the workplaces should not be too small, since small companies are less likely than larger companies to have links to occupational health services. The ambition was to investigate companies that were at least big enough to have a potential interest in healthcare and other human resource issues at the organisational level. The sampling data were provided by Statistics Sweden (SCB) and the original file containing 310 companies included ten percent of all companies in Sweden with over 100 employees. Only nine declined to participate. This sub-study was also published separately (Eriksson & Olsson, 2001).

In the third sub-study, 121 alcohol policies obtained from the companies that participated in the telephone interviews were analysed by the researchers. The purpose was to analyse the content of these policies in order to improve the knowledge on why and for whom they existed, and on what was described as being important in an alcohol and drug policy.

In the final sub-study, 54 interviews, in the form of both individual interviews and focus groups, were conducted at sixteen workplaces. These workplaces were recruited from the list of companies provided in connection with the telephone interviews. Many declined to participate in the interviews for various reasons and it was not possible to recruit companies based upon any specific criteria. The sixteen workplaces that agreed to participate in the study differed however in their location, trade, in whether they were in the public or private sector and in whether the workforce was dominated by men or women. At each of the sixteen workplaces, interviews were conducted with personnel managers, union representatives, groups of employees and with representatives from occupational health services (OHS). During the interview process, however, we ceased to interview the OHS since many had outsourced this service and the few interviews that were conducted did not become particularly workplace-specific and did not provide much new information. For this reason, these interviews were excluded from the subsequent analyses.
Three of the four data sets in Paper I are thus related; the participants in the 301 telephone interviews constituted the basis for collecting both the alcohol and drug policy documents and for recruiting participants for the final interview study.

**Analyses**

To analyse these four sub-studies, different forms of content analysis were employed. Content analysis is an empirically grounded method that is exploratory in focus (Krippendorff, 2004) with the central idea being to classify a large amount of material into fewer content categories (Weber, 1990). The content in the material was analysed openly and in a way that sought to compare both within and between the different data sets. In the first material, from focus group interviews with employees, three topics had been covered during the interview: the work situation, drinking patterns and the workplace’s attitude towards alcohol problems. These topics were analysed by applying codes to the different statements that had been made during the interviews, which had been transcribed verbatim. Thereafter, the number of occurrences of different types of statements that had been assigned codes were calculated. In the second interview material, based on individual interviews and focus groups, content analysis was used as a way of identifying and capturing the essence of the interviews in a similar fashion, but with a greater focus on a thematic form of content analysis, unlike the method employed with the first data set, where codes had been assigned to the statements for the purpose of calculation. Since there were three types of interviewees – employers, employees and union representatives – the analyses of the material were also conducted with a comparative focus. If a topic became dominant among one group of interviewees, a specific search was made to see whether and how this topic had been raised in the other interview groups. The more thematic focus of this content analysis meant that a greater focus was placed on identifying themes and analysing the content and also the latent meaning of these themes, rather than counting different types of statements as in the first sub-study included in Paper I.

In the telephone interviews and policy document analysis, content analysis was used as a means of constructing categories with regard to actions/opinions about alcohol and drug tests. The 301 telephone interviews were performed with the help of a questionnaire with both fixed response alternatives and open-ended questions. During the analysis process, the responses were summarized in frequency tables and comments written by the researcher during the interview, for which space had also been included in the questionnaire, were analysed separately in connection with the construction of categories. The 121 policies that had been sent to us were read and an analysis was conducted of their content and of the general approach that they
appeared to represent. Each policy was classified according to a number of topics which emerged during the reading and coding process as a means of characterizing the policies and their content. These topics were: length of the policy, aim, presence of alcohol and drug tests, responsibility, support from an outside help organisation, occupational healthcare, prevention, drugs versus alcohol, being drunk at work, hangovers, confidentiality, the union. These topics were analysed using both frequency tables where applicable and a more qualitatively focused analysis of the content of the policies.

Given that Paper I included four sub-studies, the possibility of providing specific information on analytical procedures was very limited in the published paper, and given the exploratory approach employed this was not considered particularly important by either the authors, the reviewers or the publishing journal. Hopefully this section has provided additional information about how this study was performed and how the different materials were analysed both separately and in relation to the overall aims of the article.

**Effect evaluations (Paper II and III)**

Both Paper II and Paper III were effect evaluations that employed a quasi-experimental design. The following section first provides a brief introduction to and discussion of the use of quasi-experiments in research.

Two terms are often used in connection with evaluations – efficacy and effectiveness. An efficacy study is one where the research is performed under optimal and controlled environmental conditions. The intervention is performed and evaluated in laboratories, for example, or other highly controlled settings, where the researchers are able to take confounding factors into account more or less completely in the research design. Effectiveness studies, or effect studies, on the other hand are more like natural experiments in which the context is regarded as highly relevant for the implementation and evaluation of a specific intervention or experiment. The intervention is performed and evaluated in real-world conditions. Prevention research is said to ideally be performed by first studying and establishing efficacy and by then subsequently studying effectiveness in the real world (Flay et al., 2005). It is not always possible to accomplish the first step, however, and much depends on the topic of the intervention, the participants and the overall context.

Efficacy research at workplaces is very complicated and practically impossible. The researchers and implementers do not have full control over the setting, participants or confounding factors. Performing randomized controlled trials, the most optimal research design, is difficult for many reasons. In the case of the education programs described in this thesis, but probably also
those implemented in similar situations at other workplaces, one also has to deal with the fact that if employers are interested in performing alcohol and drug preventive programs, they are interested in having all their employees gain access to and take part in these interventions immediately. They are less interested in meeting the demands of researchers. To randomize employees into experiment and control groups could create both a prolonged process and difficulties in successfully separating the groups, which is necessary since so called spill-over effects should be avoided. This means that one has to ensure that those belonging to the control and intervention groups do not work together and socialize, and the content of a specific intervention has to remain confined to the experiment group, a situation that is difficult to create in a single workplace. It is also generally uncommon to use randomized controlled trials when estimating the effects of different alcohol preventive efforts as a result of financial, ethical and practical considerations (Babor et al., 2010).

Quasi-experiments constitute an alternative to the randomized controlled experiments (RCT). There are many types of quasi-experimental designs and they are often referred to in a hierarchical order, with some being regarded as superior to others, but all have their own limitations and strengths. One basic similarity between the different types of designs is that when experiment and control groups are used, the members of these groups are not randomly assigned to a specific condition. One has to ensure, however, that the experiment and control groups chosen are as similar as possible to each other in relation to the most important variables. The use of control groups and pre- and post-tests, as in the studies presented in this thesis, strengthens the design, but there could still be other factors that have the potential to influence the results, unobservable confounding factors that an RCT-study would be able to control for.

**Material in Paper II**

In the second study, the aim was to investigate whether a short alcohol education program in which all employees at an insurance company in Stockholm participated had any impact on the employees’ knowledge about alcohol and on their alcohol habits. Data were collected by means of web-questionnaires in both Paper II and Paper III. E-mail lists that included all employees were provided by the participating companies and the municipality. The data collection was performed by an external firm, Rapportor AB. The data files were sent to the author of this thesis, with the participants’ e-mail addresses replaced by an ID-number.

Another company served as the control group. This company was located in the same region and within the same sector (insurance). Five questionnaires
were sent out. A pre-test was distributed in December 2006 to both the intervention and the control company. At that time, there were 202 employees at the intervention company and 453 employees at the control company. A second pre-test was distributed in 2008 and a third questionnaire was distributed shortly after the education program, but only to the company at which the education took place. The aim of the third questionnaire was to gather opinions on the education program and the initiative (material that was subsequently used in Paper IV). The fourth and fifth questionnaires, sent out to both companies, were two follow-ups six months and twelve months after the intervention.

This study faced a lot of methodological challenges, primarily as a result of difficulties in collecting the data. As has been noted, the first questionnaire was sent out in December 2006. A new owner, with a new CEO, took over the company where the education program was going to be implemented shortly after this pre-test had been conducted. The alcohol project was given a lower priority in the context of the reorganisations that followed, and the educational intervention was delayed. By the time the dates were finally set for the education program, a year and a half had passed since the pre-test. For this reason an additional but briefer pre-test was distributed in 2008, comprising the AUDIT-questions. A high level of staff turnover was then observed. Given this large staff turnover and the delay to the start of the education program, only the second pre-test measure was used in the main analyses relating to alcohol habits. The drawback of this is that a lot of other potentially useful individual information from the first pre-test questionnaire was lost. For example, the risk knowledge questions were unfortunately only included in the first pre-test and had to be analysed separately. These events that took place during the data collection process, and that affected the data collection, are typical for research performed in the context of regular real-world activities and are events that cannot be anticipated.

Due to the large number of questionnaires and the employee turnover, reporting the response rate is complicated. In order to be included in the analysis, the employees had to be alcohol consumers for the alcohol consumption analysis, and had to have responded to all the relevant questionnaires and, at the intervention company, they also had to have actually participated in the education program. Some did not participate for various reasons, such as being on sick-leave on the day of the program. Between the first and the second pre-test, 48 percent of the employees quit their jobs at the intervention company. In the control company, 28 percent quit their jobs. New employees were hired in both companies. Since risk knowledge was of interest to the study, a separate analysis was performed, for which the data set from the first pre-test had to be used. Of the 202 individuals who received the first pre-test questionnaire at the intervention company and the 453 individuals
who did so at the control company, the numbers of employees left for analysis of the risk knowledge questions given the inclusion criteria employed, were 27 and 120 respectively.

At the second pre-test, where new e-mail lists were obtained, 187 employees were employed at the intervention company and 382 at the control company. In the analyses of the alcohol consumption questions, in which the second pre-test constituted the baseline, 48 employees (26 %) fulfilled the inclusion criteria at the intervention company and 159 employees (42 %) at the control company.

**Material in Paper III**

In the second effect study, the main aim was to investigate whether a longer alcohol education program, lasting for a full day, had any impact on employees’ alcohol habits. The participating workplace was an entire municipality with 872 employees. In this study, the ten work areas at the municipality were divided into two groups, with half of the employees constituting the intervention group while the other half served as a control group. The control group received the education program six months later than the intervention group. Two questionnaires were distributed in the form of web- and some postal-questionnaires (since the employees at some units rarely used computers during working hours). The first questionnaire was sent out just prior to the intervention in 2009 and the follow-up was sent out six months after the intervention. The groups had no regular work contact with each other, were approximately the same size, and both contained roughly the same gender distribution.

A total of 529 employees responded to the first pre-test and 340 employees responded to both questionnaires. The respondents who answered both the pre- and the post-test questionnaires, who participated in the intervention and who were alcohol consumers were selected for analysis. This reduced the sample size to 263, which corresponds to 30 percent of the employees. Of these, 124 belonged to the intervention group and 139 to the control group.

**Measurements and variables**

Since similar study designs and analyses procedures were performed in Papers II and III, this section on measurements and variables and the subsequent section on statistical analyses applies to both studies, although the differences between these studies are also clarified.

The questionnaire variables employed in the analyses in these papers are: gender, risk knowledge (Paper II only), the total AUDIT-score and separate
items from the AUDIT-instrument (in Paper II frequency of binge drinking and in Paper III frequency of binge drinking, frequency of drinking and typical amount of alcohol consumed per occasion).

**Two consumption groups**

Two consumption groups were created for the purpose of conducting stratified analyses among those with the highest level of alcohol consumption and among those with the lowest level of consumption. The same procedure was performed in both effect studies. It was not possible to use the “risky-consumption” cut-off specified in the AUDIT-test, since the group produced using this threshold value became too small. Nor was it possible to employ the thresholds for hazardous and harmful levels of alcohol consumption specified by The World Health Organization (WHO) (Rehm et al., 2004) since this would have resulted in only a few cases of hazardous or harmful consumption among the employees included in the study. Instead, by combining the AUDIT questions on frequency and quantity, it is possible to calculate a very crude estimate of annual alcohol consumption (Guttormsson, 2007). The questions were “How often do you have a drink containing alcohol?” and “How many standard drinks do you have on a typical day when you are drinking?” The response scale midpoint from these questions has been employed in these calculations. A response alternative of for example “1–2 drinks” is thus relabelled “1.5 drinks” and “2–4 times a month” is relabelled “3 times a month”. These measures were used to calculate the number of drinks per year, which was then multiplied by twelve, since a standard drink contains twelve grams of alcohol, and then divided by 365 to gain the daily average in grams. These calculations generated twelve consumption categories. Breaking these down into two groups resulted in one category consisting of employees drinking 6.4 grams of alcohol or more per day (which equals half a standard drink per day), while the other category drank less than this. The cut-off for this division had to be based upon the fact that neither of the groups should be too small and also that the cut-off had to mean something in terms of consumption. Half a standard drink per day is not much, however, and it is important to stress that the majority of employees in the highest consumption group cannot be described as high-level consumers. Instead they represent the highest-level consumers in the study data. To have a higher cut-off would have produced a very small group in the highest consumption category. In Paper II, this highest consumption group represented about 40 percent of the employees (both intervention and control group) whereas in Paper III it only represented seventeen percent of the employees. This indicates that there were far more low-level consumers at the municipality than at the insurance companies.
The AUDIT-questionnaire

AUDIT (Alcohol Use Disorders Identification Test) is an instrument developed by WHO with the objective of identifying people with hazardous and harmful patterns of alcohol consumption (Babor et al., 2002). The AUDIT measure has regularly been used in Swedish national alcohol surveys since the beginning of the 1990s (Hradilova Selin, 2006). The AUDIT-questionnaire consists of ten questions, each of which has five response alternatives. These five alternatives are assigned a score between 0 and 4, giving a total range of between 0 and 40 points. The higher the score, the more harmful the individual’s alcohol habits. A commonly used cut-off for hazardous alcohol consumption is 8 points for men and 6 points for women (Källmén et al., 2007).

Besides using the total AUDIT-score as a dependent variable, three separate questions have also been used as dependent variables. The first is frequency of binge drinking and is formulated: “How often do you have six or more drinks on one occasion?” with the response alternatives: never (0), less than monthly (1), monthly (2), weekly (3) and daily or almost daily (4). The second question is frequency of drinking: “How often do you have a drink containing alcohol?” with the response alternatives: never (0), monthly or less (1), 2-4 times a month (2), 2-3 times a week (3) and 4 times a week or more (4). The third question concerns the typical amount consumed: “How many drinks containing alcohol do you have on a typical day when you are drinking?” with the response alternatives: 1 or 2 (0), 3 or 4 (1), 5 or 6 (2), 7–9 (3) and 10 or more (4). One drink is a so-called standard drink and contains approximately twelve grams of alcohol. The respondents were given examples of what a standard drink meant.

Paper II –risk knowledge

The first questionnaire included three questions on knowledge about certain alcohol-related issues. Since these were unfortunately not included in the additional pre-test, a separate analysis was, as previously noted, conducted on the basis of this smaller data set. By comparison with the data on alcohol consumption, the answers to these items are less likely to have been affected by other circumstances over time. The statements included in the questionnaire were: “Anyone who drinks alcohol could develop alcohol problems”, “Having a high tolerance for alcohol increases the risk of developing alcohol problems” and “Drinking a lot of alcohol on a few occasions involves a greater risk for problems than drinking a little alcohol more often”. In terms of the education program conducted in Paper II, having a high level of risk knowledge would mean agreeing with these statements. Risk knowledge or risk awareness is not an established instrument or concept. It has been employed and measured by means of different questions in other studies (Sand-
berg, 2007; Sjölund et al., 2008). The four response alternatives “Do not agree”, “Agree a little”, “Agree a lot” and “Agree completely” have been assigned the scores 1–4. The scores have then been summed, producing a range of between 3 and 12, with participants having a higher total score the more they agree with the three statements. The author of this thesis is not adopting a position in relation to the scientific accuracy of these statements.

**Statistical analyses**

To test whether the interventions produced a change in alcohol consumption and risk knowledge, the repeated measures ANOVA-test was employed in the studies.

The dependent variables employed in the different analyses included in Paper II were the AUDIT-score, the frequency of binge drinking and the risk knowledge score as measured at post-test. In Paper III the dependent variables were the AUDIT-score, frequency of binge drinking, frequency of drinking and number of drinks per typical drinking occasion. The independent variable was group-membership (intervention or control) and group membership thus constitutes the fixed factor in the analyses. The intervention effect is interpreted as the interaction effect between time (pre- and post-test) and group membership (intervention/control). In Paper II, separate analyses on the alcohol variables were performed on men and women as well as on the entire group, whereas in Paper III no separate analyses were conducted for men and women. Instead, sensitivity analyses were performed using age as a covariate and gender as an additional fixed factor, in order to explore whether these factors might have an influence on the results. The analyses employed an alpha level of 5 percent, which means that there is only 5 % possibility that the results are due to chance.

Although the variables in these data sets are not all normally distributed, ANOVA is commonly used and regarded as robust against violations of the normal distribution (Howell, 2007). In cases where the Mauchly test was significant and thus indicated a violation of the assumption of sphericity (sphericity means that the variance of the differences between conditions is equal), the degrees of freedom were corrected employing Greenhouse-Geisser estimates, and a check was conducted for homogeneity of variance using the Levene test. In Paper II, the AUDIT-score outcome did not meet the assumption of homogeneity of variance and a log10 transformation was therefore applied, which successfully resulted in a non-significant Levene test. The analysis of those presenting the highest level of consumption was only conducted in relation to the entire group and not for men and women separately, since the assumption of homogeneity of variance was not met even using the log transformation. The ANOVA-analyses on the partici-
pants’ AUDIT-scores were thus performed on the log-transformed variable and the anti-logged means (back transformed) with anti-logged confidence intervals, were reported. Post-hoc tests have been conducted, using pairwise comparisons with the Bonferroni adjustment, in order to determine between which time-points the changes occur (Field, 2005) and the effect size eta squared, \( \eta^2 \), is reported (Levine & Hullett, 2002), in cases where the analysis of variance produced a significant result. The analysis also utilised the last measure forward method. This involves the use of the pre-test score in those cases with a missing post-test score; there were only a few such cases in the data sets, however.

**Interview and questionnaire study (Paper IV)**

The final paper presented in this thesis focuses on the opinions on the intervention of those employees who attended the three alcohol education programs included in the project. It is a qualitative group interview study combined with analyses of the responses of both a qualitative and quantitative character from the questionnaires used in the evaluations. Those opinions that were being searched for were opinions on the content of the education programs, on their potential effects and on the initiatives per se. A second aim was to analyze what underlying ideas or assumptions these opinions derived from.

Ten group interviews were performed at the three workplaces that participated in the project. The participants were recruited using two different methods. In one workplace, the interviewer contacted all of the employees by e-mail and asked if anyone would be interested in participating, while in the other two workplaces, assigned contact persons at the workplaces asked around to gather participants for the interviews. Those who participated were between 25 and 60 years old and they worked in different sectors or units within their respective workplace or at the municipality. The interviews lasted for about an hour and there were 2–4 employees in each group, with three being the most common number. The group interviews included a total of 31 employees. The interviews were transcribed verbatim.

The data obtained from the questionnaires used in the effect studies have been combined. As has been mentioned earlier, there were three education programs, but only two (those presented in Papers II and III) where properly evaluated. The third program was not evaluated due to the lack of a control group, but the employees did receive pre- and post-test questionnaires. The specific questionnaire employed here is the one that was distributed just a short time after the education program, and only to the workplaces where the education programs took place. This questionnaire contained both questions
with fixed response alternatives and questions with open ended response options.

The idea behind using both interviews and questionnaire responses was to obtain both a more in-depth understanding of how some of the participants viewed the education program and the initiative and to obtain a broader picture via the responses provided by all the employees who had answered the questionnaire.

**Analyses**

Three broad topics were discussed during the interviews: the content – discussions surrounding the actual content of the education program they had participated in, the effects – discussions about what they believed or had experienced in relation to the potential effects of an education program of this kind, the initiative – discussions about how they viewed the fact that their employer had initiated the program. The interviews were analyzed by using an inductive thematic analysis. The three topics became the first step in sorting the material prior to analysis and these three areas were subsequently analyzed by means of a thorough reading and by searching for opinions and assigning a keyword representing the opinion to each passage in the interviews. Once this was completed, the text was reorganized on the basis of these keywords and analyzed to see if these keywords could be interpreted as themes. The identification of themes has been guided by the question “What is this expression an example of?” (Ryan & Bernard, 2003).

When the thematic analysis of the text was completed, an exploration of these themes was performed in order to see if they could be viewed in terms of more overarching themes. The search for these overarching themes was guided by the question “What are these themes an example of?” The idea was to find out what underlying ideas or assumptions these themes derived from.

The open ended responses in the questionnaire were: “What was positive/good about the initiative from your employer or about the seminars etc.?” and “What was negative/not so good about the initiative from your employer or about the seminars etc.?” There were 134 comments provided in response to the first question and 97 had provided comments to the second question. These statements were printed, read and analyzed using the same procedure as was employed in relation to the interviews. This material was combined with the interview material for the stages of searching for themes and overarching themes since the same initial keywords were found here as in the interviews.
The questions with fixed response alternatives were: “How important do you think it is for the employer to raise the question of alcohol?”, “Have you gained increased insight into your own alcohol consumption?”, “To what extent do you think that the education program was useful for yourself or more generally?”, “Do you think you will change your alcohol consumption as a result of the education program?” The analysis of these questions was conducted on the basis of frequency distributions. A chi-square analysis was performed to see whether the answers to these questions differed between the three workplaces. If the answers were to differ too much between the three workplaces, the opinions might be affected by the specific type of intervention employed, which might cast doubt on the decision to analyze the three workplaces together.

Validity and methodological limitations

The workplace as a research setting is challenging since contemporary working life is often characterized by being constantly changing, with recurrent reorganizations and a high staff-turnover rate (Näsvall, Hellgren, & Sverke, 2008), something experienced during the performance of the effect studies. These challenges affect both the research design as well as the quality of the gathered data. It consequently becomes important to raise the issue of validity, which is an important concept within research. Validity broadly refers to whether the measures used actually measure what we claim to be studying. Reliability is a related concept and refers to the extent to which a replication of the studies would generate the same results if the same measurements were used under similar conditions (Frankfort-Nachmias & Nachmias, 1992), and reliability is required to obtain validity. There are many types of validity and I will raise the three that I regard as being most important in relation to these studies; external, internal and construct validity. External validity concerns generalizability, which is how well the results in a study can be applied to other populations. Internal validity is how confident one can be about the results within the context of the study itself. For experimental studies, internal validity more specifically refers to whether it was actually the intervention that generated the results. Construct validity relates to how well the variables used and their operationalizations have a basis in theory and this is also an issue of reliability, since the measurements used should be consistent and stable over time. In this section I will address these issues in relation to the papers’ methodological limitations.

The aspect of internal validity that relates to how certain we can be that it is the intervention that caused the effect is of course debatable. There are many potential confounders that might have contributed to the results obtained. The quasi-experimental approach also opens up for more non-controllable
confounders than there would have been if an RCT had been employed for example. Using pre-tests and a control group, however, makes it easier to avoid certain threats to validity (Eliopoulos et al., 2004). These threats to validity would most likely affect the experiment and control group in a similar way and should thus not affect the results. For this reason I will not describe all of them, but the most relevant factor to discuss is the selection effect, which is the biggest threat to validity in quasi-experiments. The selection effect relates to a situation where there are significant differences between the experiment and control groups which might affect the results.

In Paper II, a different company in the same business and in the same city was used as the control group. At pre-test, the employees in the control company had a mean age of 47, as compared with a mean age of 43 at the intervention company – the difference was significant. There were no differences with regard to alcohol consumption, risk knowledge or gender distribution. In this study, separate analyses were conducted in relation to women and men. In Paper III, half of the employees served as the control group. However, these were from separate sectors within the municipality. There were no gender differences but age was slightly higher in the control group. The intervention group had a marginally but significantly higher frequency of binge drinking and a higher mean consumption per drinking occasion. Age and gender have been used in sensitivity analyses in Paper III, which did not affect the results. Further, the use of ANOVA with repeated measures in itself controls for baseline values by looking at the interaction effect between time and group (Tabachnick & Fidell, 2001; Crandall et al., 2008). Although it is possible that the control groups in both effect studies are different from the intervention groups with regard to non-measured factors, there is no indication that such possible differences would have affected the results.

Attrition can affect both external and internal validity. If the attrition produces differences in the groups being compared, then this affects internal validity, and if the attrition causes the respective groups to become unrepresentative of the population from which they were drawn, it affects external validity. In the study of municipal employees (Paper III) it was possible to see that those who only answered the pre-test (drop-outs) had higher alcohol consumption than those who answered all of the questionnaires. The drop-out rate was higher in the intervention group by comparison with the control group. When looking specifically at the drop-outs who only answered the pre-test, there were no significant differences in alcohol consumption between the intervention and control group among the drop-outs however. Nor were there any gender and age differences between drop-outs and respondents in either of the groups. There was thus nothing that indicated that the drop-outs differed between the two groups, which is important for the study’s validity (Hansen et al., 1985). In Paper II, the drop-outs were young-
er in the intervention company by comparison with the drop-outs at the control company, but alcohol consumption as measured by mean AUDIT-scores and frequency of binge drinking, did not differ, which strengthens the study’s validity.

What might, theoretically, have caused a bias in the self-reports is that it was the employer who initiated the evaluation of the education programs. The employees have been thoroughly informed about who would be collecting the data, for what purpose it would be used and how confidentially it would be stored, but this may still both have affected the response rate and generated social desirability bias, and perhaps even more so in the follow-up questionnaires. Under-reporting caused by social desirability biases (Davis, Thake, & Vilhena, 2010) may also be more common in the intervention group, since these individuals know that they are under a different type of scrutiny than the members of the control group. The intervention group might therefore respond in a more favourable and socially desirable way.

The sample sizes in both effect studies were rather small and some of the difficulties associated with evaluations of this kind come down to the problem of statistical power. The compared groups have to be very large in order to detect any significant effects unless the effects are strong. Sufficient statistical power is necessary in order to avoid type 2 errors, i.e. a failure to identify a correlation or result that is actually there, but given the earlier research showing overall poor effects of educational interventions on alcohol consumption, increasing statistical power is by itself unlikely to resolve the failure to identify intervention effects.

The response rates (i.e. those who responded to the baseline questionnaire) were also low, but this is rather normal nowadays (Wennberg, Svensson, & Ramstedt, 2011). The issue of response rates is also somewhat complicated in these kinds of studies, given the many questionnaires and that a certain level of attrition always occurs between questionnaires. Who were those who did not answer at all? It has long been known that individuals with high alcohol consumption do not respond to questionnaires to the same extent as those with normal or low levels of consumption (Kühlhorn et al., 1999; Stockwell et al., 2004), and non-respondents usually have a worse health profile overall (Drivsholm et al., 2006). This means that the analysis groups might contain more normal consumers and those with normal consumption levels do not really need to lower their consumption, or cannot lower it very much, which makes it more difficult to identify any results (if there were any results among non-responding high consumers).

In Paper II, an attrition analysis of the companies’ overall age and gender distribution showed that there were no differences between those who an-
answered the questionnaires and all those employed at the companies with one exception. Those who responded to the questionnaires at the control company had a higher mean age than the population of company employees as a whole. The gender and age distributions were obtained from the companies at the time of the first pre-test, however, and with the large staff-turnover in mind, this comparison is a little uncertain and it is difficult to speculate as to what this might mean. Mobility at workplaces is furthermore higher among those who are younger, which means that those who are older have a greater opportunity to actually respond to all of the questionnaires. Thus this does not necessarily mean that the respondents were unrepresentative of their company. In the intervention company, where the staff-turnover was even greater and no differences were found between respondents and the entire company, another explanation might be found. This company was dealing with large re-organizations and processes of this kind involve a large number of layoffs in the form of early retirement, which might have affected the comparison. In the municipality study, we did not receive any data on the employees’ age and gender and no such comparison was possible.

The quantitative studies further indicated, in unpublished analyses, that the employees in the municipality had a lower level of alcohol consumption than that found in the general population (of employed persons) and that the employees at the insurance company had somewhat higher levels of alcohol consumption than in the general working population. However, if one were to conduct the same comparison only with other municipalities or other companies within the finance sector in Stockholm it is reasonable to believe that the self-reported consumption obtained in these studies might in fact be representative in relation to the specific professions and geographical locations of the workplaces. The logic behind this argument is that a large part of the municipal sector comprises the female-dominated healthcare sector (e.g. geriatric care and disability care), and employees within this sector have previously been found to have lower than average levels of alcohol consumption (Eriksson & Olsson, 2006). Further, company sales workers have previously been found to have higher than average levels of consumption (Eriksson & Olsson, 2006).

Whether the results relating to the effects of the education program can be generalized to other work populations is uncertain. However, given the fact that earlier research on the effects of alcohol and drug education programs has for the most part shown either no effects or very marginal, short-lived effects on alcohol and drug consumption, it is reasonable to believe that the results presented in this thesis are not unique and can be applied to other populations. The decrease in binge drinking found in one of the studies among those with the highest consumption levels is interesting however. At the same time, the majority of the participants in this particular evaluation
were women in occupations requiring low levels of education and paying below-average wages, and it is difficult to know whether individuals with other types of occupations would be affected by the education program in the same way.

As for construct validity, the respondents in the two quantitative studies answered a number of questions about their alcohol consumption in confidential questionnaires. Self-reported alcohol consumption has often been questioned in terms of validity, but the general conclusion from most of the research seems to be that self-reported data have reasonable levels of validity and that this constitutes a reliable research method for the estimation of alcohol consumption (Babor, Brown, & Del Boca, 1990; Del Boca & Darkes, 2003). The instrument used to measure alcohol consumption was AUDIT. This is a well-established instrument with both high validity and reliability (Daeppen et al., 2000; Reinert & Allen, 2002). Further, the studies presented in this thesis did not attempt to measure absolute levels of alcohol consumption, but rather used the self-report questionnaires to investigate whether there was any change over time.

Another measure was based on the questions relating to knowledge about certain alcohol-related issues in Paper II, and these were only three in number. It should be noted that the questions on knowledge were selected by IOGT-NTO. These questions can thus not be viewed as necessarily constituting the most important knowledge to be aware of, and the accuracy of the statements might be debated. At the same time, these were questions that the program instructors found to be accurate and important. Further, the impact of an increase in knowledge will also depend on the participants’ initial level of knowledge. It is reasonable to believe that improved knowledge may have a greater effect on behaviour in groups where knowledge of alcohol and its associated risks is initially low. However, as an indicator of whether the participants learned something, the questions chosen may be viewed as being valid.

The issues of validity and reliability in qualitative studies are somewhat different. Addressing validity and reliability is more common in quantitative studies and in qualitative studies the relevant issues are more often described in terms of credibility, trustworthiness and transferability (Golafshani, 2003). Credibility concerns how appropriate the interviewees, the performance of the interviews and the analyses were for the purposes of answering the research questions. The possible bias in the interview studies in this thesis is that those who chose to participate in the interviews might generally speaking have been more interested in alcohol issues. In surveys, for example, it has been found that an interest in the topic at issue raises the response rate (Gmel, 2000) and that high-level alcohol consumers tend to have a lower
response rate (Stockwell et al., 2004), and perhaps this is true for interview participants as well. On the other hand, several sources of data were employed in both Paper I and Paper IV, which all produced similar results in their respective studies. Combing methods and data strengthens validity and reliability (Patton, 2002).

Another possible limitation is the fact that one of the workplaces participating in the effect studies, and two of the three workplaces from which employees were recruited for the interviews in the fourth paper, are companies that have some current or historical connections to IOGT-NTO. IOGT-NTO also both performed the education programs and initiated the evaluations. First of all, the researcher served as an independent researcher and is solely responsible for the data collection and for the conclusions drawn. The task was only to evaluate the education programs, and research and the choice of research direction for the purpose of the thesis was left to the researcher to decide. It is also highly unlikely that the participants were significantly affected by the fact that IOGT-NTO was involved with their companies. Most of the respondents were “normal alcohol consumers” and the same type of opinions emerged during the interviews in both the municipality in which IOGT-NTO was not involved and in the two companies with IOGT-NTO connections.
MAIN RESULTS AND DISCUSSION

In this section, an analysis and discussion is presented which relates the papers to one another in order to illuminate the research questions in a broader context. What can be said about the potential of and the expectations placed on workplace alcohol prevention? The overall purpose of the thesis has been to analyze the prerequisites for and possibilities and barriers associated with universal alcohol prevention at workplaces in Sweden in conjunction with the often-claimed need for interventions that are evidence-based.

Alcohol policy has changed in Sweden since the mid-1990s. Legal regulations, or macro-level preventive measures, such as taxation, retail regulations and advertising bans, are well established in Sweden. But many of these alcohol policy instruments have become weakened, as was discussed in the introduction, and new paths for alcohol policy have been sought as a result. Besides a general trend towards assigning individual citizens responsibility for their own health and safety, in line with both new public health and neoliberal trends, directing attention at workplaces represents a way of further decentralizing and outsourcing alcohol and drug prevention from the state to other actors. Public authorities tend to delegate responsibility downwards (Sulkunen, Rantala & Määttä, 2004). Delegating the task of alcohol prevention can also be viewed as a means for the state to escape liability in this policy area, and it cannot be held equally accountable if the mission fails. By focusing on which actors have a lot to lose as a result alcohol problems, given that the state has less of a mandate and less power to regulate this area, it becomes natural to turn to employers who might benefit financially from having fewer alcohol and drug problems at their workplace. In addition, employers constitute a typical example of agents who are “mobilized by the state to ‘govern at a distance’” (Rose & Miller, 1992). This is also true of organizations that have the objective of finding the correct ‘know how’ in a certain field. Identifying such agents, techniques and solutions to problems outside the government system has been described as crucial to modern governmental rule (Rose & Miller, 1992). All of these elements are thus present in this thesis, both in the background to the project, in the form of organizations trying to gain access to this “market”, in the project’s focus on the workplace and in the evaluations which, besides attempting to determine whether the interventions were successful, also have the objective of identifying evidence-based methods. There are however numerous problems asso-
associated with the expectations placed on employers in terms of how realistic these expectations are, and also in terms of how workplace-based prevention may be implemented and what results might be expected if something is actually done. Universal alcohol prevention at workplaces faces a number of difficulties.

**Lack of interest**

As the results in Paper I indicated, the overall interest in universal alcohol prevention at workplaces in Sweden was rather low among employers, and this constitutes a major obstacle. In connection with the lack of interest from employers, it is interesting to note that two of the three participating workplaces, where interventions did take place, had current or historical connections to IOGT-NTO and that it was difficult to find other employers who were interested in the project. The third participating workplace was an entire municipality, at which a dedicated project leader had been granted government funding to launch an alcohol prevention project. There are thus underlying reasons behind these workplaces’ involvement in the project, which further illustrates the problems associated with persuading employers to engage in alcohol prevention.

Since employers have to finance these kinds of activities themselves, it is quite obvious that they will not happen if the sense of need for alcohol and drug prevention and the general interest in the topic among employers is low. Employers emphasize that their primary task is that of running an efficient business, and they have difficulty accepting that they should assume responsibility for alcohol prevention. Nor do they feel that prevention is necessary, since they do not perceive that alcohol-related problems among their employees are a common occurrence. This is probably a problem for prevention in general, and prevention in general has increasingly come to be referred to as involving actions related to risks and “pre-diseases” (Starfield et al., 2008). If prevention is perceived as something that is carried out once the unwanted outcome is already there, the ultimate concept and definition of prevention becomes redundant. If employers are the assigned actors for prevention work, maybe this interpretation of prevention on their part reflects exactly what might be expected. It is almost impossible to expect that employers acting in a market guided by profit and efficiency will launch activities in order to prevent their employees from drinking too much, eating too much, smoking too much or exercising too little. Employers do have an obligation to prevent work-related ill-health at the workplace, but to expect employers to perform extensive, preferably evidence-based interventions in relation to every single health topic is not at all realistic. Nor are many of the relevant health issues particularly workplace-related, particularly the kinds
of health issues mentioned above, which are behaviors that might affect one’s health negatively but which have their origin in behavior that takes place for the most part away from work and in the context of lifestyle choices.

The experiences surrounding the interventions described in the thesis, and the evaluations conducted, produced both new and old insights into the difficulties associated with the implementation and conduct of effect evaluations. It is not easy to fit intervention programs into the everyday work situation of workplaces, and evaluating these interventions is also challenging. Experiences from treatment and social work also show that it is particularly difficult to implement evidence-based interventions, since they often consist of strict manual-based programs (Abrahamson, 2009; Farley et al., 2009). The education program evaluated in Paper II is an illustrative example of the difficulties associated with adapting prevention programs to the daily work situation and to what employers are willing to agree to when it comes to the size of a prevention program. IOGT-NTO wanted to perform an education program that lasted for three hours, but the company’s contact persons believed that this was too long and in the end two 45 minutes seminars were agreed upon. The size of the intervention is an important factor for employers, since it affects the costs associated with the intervention as well as the possibility of performing the intervention at all. Logistically it can be quite difficult to set up a long education program since it has to be coordinated with the regular tasks of employees and sometimes temporary staff have to be recruited or employees have to cover for one another, depending on their assignments.

The topic

Another factor associated with the reluctance to do something is that alcohol consumption is and always has been a sensitive topic. An individual’s alcohol consumption is viewed as being a private matter as long as there are no problems associated with this consumption. Both the employers and employees interviewed in Paper I and the employees interviewed in Paper IV felt that they did not want to lecture others or to be lectured about how they should consume alcohol. In Paper IV in particular, in which employees who had taken part in alcohol education programs were interviewed, many of the employees expressed these kinds of feelings, although they also emphasized that it is good to be provided with information. This study provided insights into how important it is that an alcohol education program must be reasonably neutral and information-focused, rather than being full of advice on how to drink. If an education program has more of a health focus, rather than focusing on reducing the risks associated with alcohol and with certain levels
of consumption, it is more likely that the participants will appreciate the program and will be able to relate to the topic. This indicates that it is crucial that a preventive measure directed at an entire group, i.e. a universal approach, contains elements that are intended to work for different types of consumers, so that everyone will be able to embrace and relate to the information or message that is being conveyed. This might be particularly important when the majority of the participants do not have any alcohol problems or consume alcohol in a risky way. People will not embrace the message if they do not feel personally affected in any way. During the interviews conducted among the participants in alcohol educations programs, which are presented in the fourth paper, it seemed as though they did not feel very susceptible to developing the condition of alcoholism or risk consumption.

We live in a society in where risk is a very important concept and something that individuals are expected to deal with in almost all of their daily choices (Beck, 1992). This may be overwhelming, and given the magnitude of – sometimes contradictory – risk information that is transmitted via different media channels, it is also be very difficult to interpret and incorporate this information into everyday life. Alcohol and drug education programs often focus a great deal on risks, and this risk focus should perhaps be given some consideration when designing these kinds of interventions. In addition to the flow of risk information in general, there are the tendencies shown in Paper IV that the participants had trouble seeing how this might relate to them. How these factors might be considered is a question that lies beyond the scope of this thesis, however, and is an area where more research is needed if these types of interventions are going to be used in the future. One very important aspect of the potential to achieve results using alcohol and drug education programs is that the participants must have faith in the message that is being conveyed (Karlsson, 2010) and the intervention must be perceived as legitimate and meaningful (Lilja, Giot & Larsson, 2004). It has also been suggested that it would be more appropriate to incorporate the alcohol issue as one of several health issues dealt with in the context of broader efforts focused on health and the work environment (Eriksson & Sandberg, 2004; Midford, Welander & Allsop, 2005; Wibell, 1991). Given the low levels of interest in alcohol prevention and a lack of obvious alcohol-related problems, isolating the alcohol issue will most probably reduce the likelihood of interventions being implemented. It has also been found that those who engage in risky alcohol consumption also eat less healthily, exercise less and use more tobacco (Swedish National Institute of Public Health, 2012), which further illustrates the complexity of unhealthy lifestyles and might also indicate that broader health interventions are called for.
Lack of substantial effects

It is difficult to achieve any effects on alcohol consumption by means of education-only approaches. This has been known for a long time, but these types of interventions continue to be applied, at least in schools. The interventions analysed in this thesis were directed at adults, which is unusual, and the results were to some degree in line with those of previous research.

The evaluation in Paper III did show a decrease in the frequency of binge drinking among those who had the highest levels of consumption when stratified analyses were conducted. In the other study (Paper II), which measured risk knowledge, it was possible to see an increase in the level of knowledge among participants, but there were no effects on alcohol consumption. The fact that the intervention led to increased knowledge about alcohol is a good thing, of course, but is perhaps not particularly surprising since the central idea of all education programs is to teach the participants something. From a new public health perspective, this still represents a good result, since information and knowledge are viewed as a fundamental tool for the purpose of preventing future problems.

In these studies, however, it was not possible to draw any conclusion about the effects of the length of the intervention – that is, whether the results found in the municipality were due to the fact that the education program employed there was more extensive. And even if the length of the education program did cause or contribute to the effects found, a full-day education program directed at all employees is not something that we can expect employers in general to be prepared to perform. The decrease in binge drinking noted among those with the highest levels of consumption is interesting, and perhaps an adult population differs from one comprised of adolescents. The change was small, however, and was only measured over the short-term – we do not know whether it will last – and it only related to a sub-population of the workforce.

Lack of interest from employers and the costs associated with health activities or interventions are major issues and obstacles in relation to the realization of preventive activities at workplaces. Any cost-benefit calculations conducted from an employer’s perspective would probably not show that interventions of this kind are cost-effective. On the other hand, the education programs might be successful in ways that it is not possible to measure. The employees, at least those who responded to the questionnaires, were not heavy consumers with any immediate need to reduce their alcohol consumption. But they might have been affected in the sense of developing a reduced risk for future alcohol problems, which is in line with the status quo rein-
forcement side of prevention. To measure this type of effect is quite difficult methodologically, however, particularly in these kinds of settings.

Other values

Why then are educations so popular and what results can actually be expected? Since both previous research on educational interventions, and this study, have fairly consistently found no effects or only very modest effects on levels of consumption, it is also important to ask whether these kinds of educational interventions might be of any value in ways that are not shown in effect studies. School-based interventions are still widely used, for example, despite a lack of proven effectiveness. Transmitting knowledge on alcohol and drugs to children is considered an important societal responsibility. Whether this somewhat paternalistic line of reasoning applies to adults as well is maybe not as straightforward and self-evident. The educational approach to prevention is viewed as being a reasonably harmless and, at least for children and adolescents, acceptable approach which in addition does not damage any economic interests, such as the alcohol industry, and these are probably some of the reasons why such interventions are popular (Room, 2000).

The qualitative study presented in Paper IV aimed to examine the rarely-heard opinions of participants in alcohol education programs, in this case the employees at three workplaces. Overall, it seemed that the education programs were perceived as being useful. Most believed that these kinds of education programs are important and that they would hopefully be useful for those who might engage in excessive alcohol consumption, and thus they did not relate the education programs to themselves to any major extent. At the same time, this is not so strange, since in an interview situation it might be difficult and awkward to reflect on one’s own consumption (and nor was this the purpose of the interviews). But the study showed that the education programs did have some value and were useful, even though this usefulness was rather vaguely formulated in terms of the programs having been interesting and perhaps more directly useful for those with excessive alcohol consumption.

Alcohol causes a lot of harm and is a product that in Sweden is sold and made available by the state. The costs associated with the abuse of alcohol and the consequences of alcohol consumption are huge (Johansson et al., 2006). Information on the health effects associated with alcohol should, in some form, be provided to everyone, since consumers have a right to know. In many respects, alcohol is no ordinary commodity (Babor et al., 2010). The balance between state interference and paternalistic treatment on the one
hand and individual freedom and personal choices on the other is a fine line and one that is not easily dealt with. The issue might become even more delicate when the state is replaced by one’s employer. Some level of paternalism in relation to alcohol prevention will always be present, but the perception of paternalism probably differs. State regulations on alcohol are viewed by many liberals as contributing to a ‘nanny-state’ (just a parenthesis: the retail monopoly Systembolaget actually sells a non-alcoholic beer named “Nanny State” from Great Britain). Paternalism is most likely to be experienced as being even more present when people are subjected to direct lecturing and advice on how to drink, and these perceptions might perhaps be intensified even further if this advice comes from one’s employer.

Alcohol information should be provided to everyone, but the question of who should provide this information, and how it should be provided, remains unanswered, and employers are perhaps not the most self-evident or appropriate solution.

Symbolic actions

Employers are, however, aware of the pressure on them to act and to “do something” to address the alcohol and drug issues that are portrayed as constituting threats to work security and product quality, and about the costs associated with alcohol or drug abusing employees. An alcohol and drug policy is an easy way to show that at least something is being done. An alcohol and drug policy could be seen as a symbolic tool or action, which is of value for employers, since the mere presence of a policy is a way of showing that the management is addressing this issue both internally for the employees and externally for customers and authorities. As was shown in Paper I, however, the policies were rarely well thought-out and did not seem very workplace-specific but rather appeared to copies of some standard policy model. Having an alcohol and drug policy might be viewed as a first step or as a foundation for other preventive actions. At most workplaces, however, an alcohol and drug policy is the only measure in place, and given the pressures for cost-effectiveness and the focus on results in both private and public sector workplaces and organizations, it is not strange that no further action is taken. It takes time, planning and money to do more than write a policy, and the possible results are often either not clearly apparent or simply do not exist.

Although drug and alcohol testing are not a specific focus in this thesis, it should be noted in the context of a discussion of symbolic action that alcohol and drug testing might also be seen as an example of this. There is little evidence that testing actually works to prevent or deter alcohol and drug use,
and the research evidence is most often referred to as inconclusive (Normand et al., 1994; Pidd et al., 2006). However, the mere use of testing at the workplace at least sends a signal to employees and relevant stakeholders that the management takes these issues seriously, and by conducting testing the management may be perceived as being active and effective. The potential negative consequences of alcohol and drug testing are most often disregarded and it may feel difficult for individuals to argue against the idea that “as long as you are clean you have nothing to hide”. Drug testing can furthermore be viewed as a typical element of some aspects of an increasingly medicalized and technocratic society, whereby techniques of surveillance and control that scrutinize the individual’s body by means of tests are believed to constitute a solution to social problems.

Evaluations constitute another example of symbolic action (Ahlbäck, 1999). The trend towards evaluating everything represents a way for commissioning bodies such as municipalities and companies to present themselves as being transparent and self-reflective. For the performing agencies, it may also be a way to finally achieve the status of having an evidence-based practice and to enter into the expanding ‘expert-system’. If interventions are not effective, the commissioning bodies will not repeat the activity, and the performing agencies will continue to try to change the content and design in preparation for the next evaluation. The state today needs to a greater extent to legitimize most of the actions it takes, and evaluations may be a way to establish trust and confidence in the actions taken (Hanberger, 2003). Nor does this does relate only the state, but also to private actors and organizations. Involving researchers increases the status of evaluations and signals credibility given that academic researchers should be objective and should report factual results without any distortion.

Symbolic actions can also be found at the political level. Delegating the responsibility for alcohol and drug prevention to municipalities and local actors and identifying areas such as workplaces constitutes a way for the government to show, in new ways, that they are still engaged in combating alcohol and drug problems. It is also possible that delegating prevention to the local level and to local actors is more practicable and easier to legitimize than the traditional macro-level measures, which are not as accepted in the context of the liberalism that permeates society. The misuse of alcohol and drugs is something that cannot be neglected at the political level, but the previous consensus about maintaining a restrictive and regulated alcohol policy has been lost or is facing serious challenges. The “new alcohol policy” could be seen as a way of concealing a fragmented and insecure policy arena.
Final remarks

The papers in this thesis have their own limitations and strengths. Some of these are unique to the specific studies and some are more general limitations experienced by all prevention researchers and others who study the effects of interventions. The strength of the studies is found in their combined contribution to a greater understanding regarding the expectations that can be placed on workplace prevention. Through the initial study of the prerequisites for and interest in prevention, followed by studies on the effects and experiences obtained in connection with the evaluation of two interventions, and finally by studying how recipients of alcohol educations view and value these interventions, it has been possible to illuminate the research questions more fully. Another strength of this thesis is that the phenomenon of workplace prevention has been investigated via both quantitative and qualitative material from a range of different perspectives and from the points of view of several different actors. It might be argued that it is not certain that firm conclusions can be drawn on the basis of a few case studies, but it is likely that the results from these case studies and the experiences gained during the evaluations are not unique. I would instead argue that these cases are telling examples of what can be expected and achieved within the field of alcohol prevention at workplaces. All four papers serve to confirm some of the findings reported in previous research, but in combination they also provide new and important information for stakeholders and employers.

The first paper was published in 2004. In the context of the subject of workplace prevention it can be argued that this is not a delimiting factor for the conclusions drawn in this thesis but rather serves to strengthen the conclusions. At the beginning of the 21st century, the focus on workplaces as a site for universal prevention was much the same as it is now in 2013. The workplace continues to be regarded as promising, but still little is happening besides state initiatives such as the Riskbruksprojektet, for example. This project has had some success and employers have shown some interest (Swedish National Institute of Public Health, 2011). This is a project where the main aim is not of a universal preventive character, however. It consists of various strategies to identify and help employees with hazardous consumption. In other words, the measures that target employees with emerging problems, i.e. selective prevention, are still the most popular. There have been limited efforts at workplaces regarding interventions of a universal preventive character. Nor has there been much discussion about how such interventions might be conducted, for whom and by whom. From this perspective, the first paper provides additional information about what can be expected from workplace-based prevention in the future, since it concluded that not
much had been done at that time, and that there was little real interest in these issues. It is likely that the picture is no different today.

The evaluation business is thriving, and everything has to be evaluated, both for the purpose of finding effective methods but also in order to estimate and compare the success in various areas, such as policy changes or the ranking of universities – or, as in the present case, organizations or actors within the prevention field trying to survive and establish their value. The time has come to raise concerns about the possible side-effects of the extreme focus on evidence-based methods as the only way forward, and not only within the field of prevention. This could create a feeling that a specific course of action has no value unless it is proven to be effective. Individuals and organizations engaged in prevention in various forms, for example, might feel a sense of resignation and that their engagement and work within a field is being disregarded. The work and actions taken within non-profit NGOs or among dedicated individuals might decline as a consequence, which ironically is the opposite of what is desired at the political level. Civil society and the work of NGOs have been identified as important elements in future society (Harding, 2012; Eriksson et al., 2010). The praise of evidence-based methods is probably affecting the work of both existing and new actors working with specific methods, but, and perhaps more seriously, it may also affect the possibilities to of working with alternative ideas and innovative strategies at the political level or within civil society at large – efforts and ideas aimed at preventing future alcohol and drug problems, but which do not have manual-based programs with brand names.

It is evident however that the stated potential of working with prevention in workplaces for the most part mainly resides in theory and in the arguments about why this is believed to be an appropriate arena. But potential is not enough to make prevention initiatives happen and work in the desired or expected way. The lack of interest due to the absence of obvious alcohol problems, the financial costs involved, and the difficulties associated with fitting interventions into the daily work situation, all constitute factors that are part of the everyday reality of employers, and they affect both whether anything is done at all and the magnitude of those interventions that are in fact introduced. For the time being, and given these circumstances as well as the fact that most interventions of a universal preventive character generate no or only modest effects, it seems reasonable to doubt whether the workplace constitutes a particularly promising arena for universal prevention in the real world. Intensifying alcohol prevention at workplaces as a means of lowering societal levels of alcohol consumption does not seem very likely to succeed. It is highly unrealistic to believe that these kinds of measures will compensate for a weakened alcohol policy. Who is going to do this? Who is going to perform and pay for these interventions? How these expectations
should be viewed and what might be expected is a topic that is rarely dis-
cussed. In the end it becomes empty rhetoric if one keeps repeating that
workplaces have “potential” without ever discussing where this potential lies
and how it is supposed to be realized.

This thesis will hopefully contribute to a more nuanced view of these expec-
tations and will provide new information about the problems, the results and
about what it is important to consider if alcohol education programs are to be
performed at workplaces.
SVENSK SAMMANFATTNING (SWEDISH SUMMARY)

Det övergripande syftet med denna avhandling har varit att analysera förutsättningarna för och möjligheterna med alkoholprevention på arbetsplatser i Sverige. Alternativa och kompensatoriska åtgärder inom alkoholprevention har alltmer efterfrågats och sökts sedan den restriktiva alkoholpolitiken successivt har försvagats under snart två decennier. Arbetsplatsen som en möjlig och lämplig arena för alkohol- och drogprevention är något som under en lång tid förlitats fram i bland annat statliga utredningar. Vad som sällan diskuteras är dock på vilket sätt detta skall göras, vem som skall göra detta, huruvida detta är realistiska förväntningar och om detta kan bidra till att minska de negativa effekter man befarar kan komma att ske på grund av den alkoholpolitiska försvagningen. Det har också blivit ett allt starkare krav på att använda sig av evidensbaserade metoder inom prevention. Det vill säga man skall använda sådana metoder som har stöd i vetenskaplig forskning.

Den typ av prevention som är i fokus i denna avhandling är universell prevention, vilket innebär insatser som riktar sig till alla i en viss population och där det yttersta syftet är att förebygga framtida alkoholproblem och alkoholskador. Populationen i avhandlingen är samtliga anställda på olika företag och den specifika universella prevention som står i fokus är alkoholutbildningar.

ning som genomfördes för samtliga anställda i en kommun. Den sista studien är en kvalitativ intervjustudie och syftar till att analysera hur de anställda som gått alkoholutbildningar ser på sitt deltagande, innehållet och insatsen.


Att arbetslivet är en lovande arena för prevention gäller mer i teorin än i praktiken, speciellt när det gäller insatser av universell karaktär. Intresset finns inte, det kostar pengar att genomföra stora utbildningsinsatser och, vilket även är känt sen tidigare, alkoholutbildningar ger sällan några större mätbara effekter på alkoholkonsumtionen. Det är inte realistiskt att arbetsplatsprevention kommer att bli en brett tillämpad och effektiv åtgärd som alternativ eller komplement till en försvagad svensk alkoholpolitik.
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