

# Alcohol-Related Violence

Prevention and Treatment



Edited by  
**Mary McMurran**



# ALCOHOL-RELATED VIOLENCE

WILEY SERIES IN  
FORENSIC CLINICAL PSYCHOLOGY

*Edited by*

**Clive R. Hollin**

*School of Psychology, University of Leicester, UK*

*and*

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*Institute of Mental Health, University of Nottingham, UK*

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## Prevention and Treatment

*Edited by*

**Mary McMurran**

*University of Nottingham, UK*

 **WILEY-BLACKWELL**

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## FOREWORD

I first met Mary McMurran in 2003 in Perth, Scotland, where we were part of a workshop on alcohol and violence. In her presentation, she described a new program that she had developed for counseling violent offenders whose offenses were linked to their drinking. I was very impressed with her work. Although the relationship between alcohol and violence has been recognized for millennia, hers is one of the few offender programs to incorporate knowledge about the dynamics of the alcohol–violence relationship. This book expands her thoughtful approach to combining theoretical and applied research to addressing alcohol-related violence.

The relationship between alcohol and violence is a fascinating area of research because this relationship often involves a complex interaction of biological, psychological, social, and cultural factors. For alcohol researchers, it is important to recognize that individual, social, and cultural factors not only determine the drinking pattern of the individual but also affect whether he or she will become aggressive when drinking. From a violence research perspective, because the link with alcohol is pervasive across time and cultures, examining alcohol's role in violence can help increase the understanding of violence generally.

The fact that violence often results from complex interactions of factors means that there are many points of entry into prevention and treatment. Specifically, one can focus on (1) the effects of alcohol, (2) personality/attitudes of the violent person, (3) the situational context, and/or (4) the sociocultural environment. Sometimes, changing only one of these contributors may be sufficient to prevent some instances of violence. Changing several might be expected to have an even bigger impact.

For example, O'Farrell and colleagues (O'Farrell *et al.*, 2004) found that behavioral couples therapy for married and cohabiting male alcoholic patients significantly reduced partner violence with this association partly mediated by reduced problem drinking. This finding does not mean that eliminating alcohol would eliminate all IPV, which is clearly not the case. However, it does mean that for some perpetrators of IPV, alcohol is a key component in the mix leading to their violence, and addressing this one factor can have an impact on reducing their violence.

Thus, the more we know about the complex interactions of factors involved in the process leading to alcohol-related violence, the better our ability to identify

the levers most likely to short-circuit this process. For example, for some especially violent individuals, the key factor in the person's aggression may be their personality and attitudes, with alcohol, context, and culture having relatively small influences other than as possible precipitators and potential deterrents. Individually targeted interventions would be essential for this kind of violence. However, for other persons who are not generally violent but engage in occasional violence in particular contexts such as bars, addressing the context may be the most effective strategy for prevention (e.g., the Safer Bars program; Graham *et al.*, 2004).

The broad scope of this book nicely addresses the complexity of the alcohol-violence relationship. The first part of the book contains a wealth of insights for helping to sort out the various factors influencing different types of alcohol-related violence and points to new directions for addressing such violence. For example, Rossow and Bye make the important point that interventions need to address both heavy and non-heavy drinkers because, although alcohol-related violence is more common among heavy drinkers, violence by non-heavy drinkers may be the larger problem due to their greater numbers. They also suggest that alcohol policy is an important strategy for reducing alcohol-related violence because such policy can affect both the amount of alcohol consumed *and* the context in which alcohol is consumed.

In his chapter, Durrant reframes the problem of alcohol-related violence using an evolutionary perspective. Evolutionary theory has been increasingly prominent in violence research but has not yet had an impact on our understanding of the alcohol-related violence. His discussion of implications provides examples of how known approaches to preventing alcohol-related violence can be enhanced by taking into consideration possible evolutionary factors. Thus, this reframing can help to stimulate new and innovative approaches to prevention and treatment.

Durrant's and other chapters highlight the importance of masculinity identity concerns and how these are related to alcohol-related violence (see Wells, Graham, and Tremblay, 2007). Across a range of different cultures, alcohol-related aggression is much more likely to involve men (Graham *et al.*, 2011), primarily young men, as is violence generally. Thus, while alcohol can influence the aggressive behavior of women as well as of men, the role of gender and age is a key element in addressing alcohol-related violence.

The second part of the book focuses on prevention and treatment. As with the preceding chapters, these help to reinforce the multifactorial nature of alcohol-related violence and the various avenues for addressing this problem, including policing and legal issues, addressing the drinking context, and various interventions focused on individuals and their families.

Although these chapters are not always able to point to effective solutions, they provide a useful way of conceptualizing how to address the complex interaction of factors linking alcohol and violence. For example, the findings reported by McCracken and Sassi describing an experimental alcohol intervention with offenders suggest that focusing only on alcohol use may not be enough for these individuals; however, a subsequent chapter by McMurran explores ways to enhance this individual approach by taking into consideration *how* alcohol affects

the drinker, the expectations that link alcohol to violence and the role of provocation in the drinking context. Similarly, the chapter by Mann and Farmer describes the multifaceted linkages between alcohol and sexual violence that need to be taken into consideration in order to individualize treatment for sexual offenders and to maximize treatment effectiveness.

In sum, this excellent book provides a valuable resource for researchers, clinicians, and policy specialists working in the area of alcohol-related violence.

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## REFERENCES

- Graham, K., Bernards, S., Knibbe, R. *et al.* (2011) Alcohol-related negative consequences among drinkers around the world. *Addiction*, **106**, 1391–1405.
- Graham, K., Osgood, D.W., Zibrowski, E. *et al.* (2004) The effect of the *Safer Bars* programme on physical aggression in bars: Results of a randomized controlled trial. *Drug and Alcohol Review*, **23**, 31–41.
- O'Farrell, T.J., Murphy, C.M., Stephan, S.H. *et al.* (2004) Partner violence before and after couples-based alcoholism treatment for male alcoholic patients: The role of treatment involvement and abstinence. *Journal of Consulting and Clinical Psychology*, **72**, 202–217.
- Wells, S., Graham, K., and Tremblay, P. (2007) Beliefs, attitudes, and male-to-male bar-room aggression: Development of a theoretical predictive model. *Addiction Research and Theory*, **15**, 575–586.





## SERIES EDITORS' PREFACE

### ALL THINGS MUST PASS

This is the 19th and final book in our *Forensic Clinical Psychology Series*. The first book in the Series was published in 1999 (William L. Marshall, Dana Anderson and Yolanda Fernandez, *Cognitive Behavioural Treatment of Sexual Offenders*), so we have been going at better than a book a year for over a decade. The impetus for the Series came at a time when there was renewed enthusiasm for applying psychological theory and research to working with offenders in order to reduce crime. In the years that span the first text appearing and the present day, there are good grounds for thinking that the treatment and rehabilitation of offenders is now mainstream business within the criminal justice systems of many countries. Indeed, a recent American text has strongly argued for a reassertion of social science in order to inform crime reduction policies (Dvoskin *et al.*, 2012). In a country with a prison population of over two million people, an alternative to punishment is clearly an attractive option.

The starting point for the Series was, of course, the research that gave rise to the *What Works?* literature and the defining characteristics of effective treatments in terms of crime reduction (Andrews and Bonta, 1994; McGuire, 1995). The subsequent development and influence of the risk–need–responsivity (RNR) model and its emphasis on evidence-based practice is evident throughout the Series. Indeed, the robustness of this model and need for evidence is a cornerstone of effective practice. It is the case that other models of practice may come and go, but the RNR remains at the forefront of practice (Andrews, Bonta, and Wormith, 2011).

We were clear from the outset that our aim in developing this Series was to produce texts that both reviewed research and drew on clinical expertise to advance effective work with offenders. Further, we were clear that the books published in the Series would not be practice manuals or 'cookbooks'; rather, we wanted to encourage authors and editors to produce texts that would offer readers authoritative and critical information to enable practice and research into practice to develop.

The full list of titles below reflects the range and diversity of forensic clinical psychology. The range is reflected in the highly specialised nature of some books, the emphasis of clinical practice in others, while some are concerned with systems and organisation of service delivery. The diversity is evident in the range of topics, from sex offenders, mentally disordered offenders, violent offenders, and so on.

So we come to the end of the Series. We have worked together on this Series and several other projects for more years than either of us would care to count. We should mention the role of the publishers in the development of the Series. We worked with several publishing editors and they were always responsive to our ideas, thorough in their approach and constructive in their comments. The quality of the published books is excellent and, as is the way of things, the cover design for the Series, lined up on the shelf, has gone through several rather natty incarnations.

There will be many more books written about forensic clinical psychology, but we feel, after some angst, that this Series has made its contribution. In the words of the late, great George Harrison, all things must pass, and now it is our turn.

## ABOUT THIS BOOK

Our earliest venture into book publishing together was on alcohol-related crime – Mary McMurren and Clive R. Hollin (1993), *Young Offenders and Alcohol-Related Crime: A Practitioner's Guidebook*, Chichester: Wiley. Our final book in the Series is on alcohol-related violence. Over the years, concern about alcohol-related crime, violence and disorder has not abated; if anything, it has increased. Yet, our experience has been that all along the line in criminal justice, the treatment of alcohol problems has been a poor relation to the treatment of drug problems. This is despite the truth that alcohol problems and alcohol-related crimes are more prevalent than drug problems and drug crimes, and just as damaging to individuals and to society – perhaps even more damaging.

It is our desire that the prevention and treatment of alcohol-related crime, particularly violent crime, should receive the attention it deserves from commissioners, researchers and practitioners. To this end, matters to do with alcohol need to be distinct from those subsumed under the generic term 'substance misuse'. Alcohol is distinguished not least by the fact that its use is not illegal in many countries. This leads to commercial, licensing, policing, social and contextual factors that need to be addressed when tackling associated problems.

There are a number of eminent researchers and clinicians who have focused their work specifically on aspects of alcohol-related violence for many years. There are others who have specialised in the study of particular crimes, for whom alcohol is but one important contributory factor to be taken into account. We are grateful to these researchers and clinicians for their exceptional contributions to this volume. By writing such outstanding chapters on this perennial and important topic, they have allowed us to finish the Series in a blaze of glory!

Clive Hollin  
Mary McMurren  
March 2012

## REFERENCES

- Andrews, D.A. and Bonta, J. (1994) *The Psychology of Criminal Conduct*. Cincinnati, OH: Anderson Publishing.
- Andrews, D.A., Bonta, J., and Wormith, J.S. (2011) The risk-need-responsivity (RNR) model: Does adding the good lives model contribute to effective crime prevention? *Criminal Justice and Behavior*, **38**, 735–755.
- Dvoskin, J.A., Skeem, J.L., Novaco, R.W., and Douglas, K.S. (2012) *Using Social Science to Reduce Violent Offending*. Oxford: Oxford University Press.
- McGuire, J. (ed.) (1995) *What Works: Reducing Reoffending*. Chichester, Sussex: John Wiley & Sons.

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2011. Peter Sturmey and Mary McMurren (eds), *Forensic case formulation*.
2012. Mary McMurren (ed.), *Alcohol-Related Violence: Prevention and Treatment*.



## **PART I**

# **THE EXTENT OF THE PROBLEM**



## Chapter 1

# THE PROBLEM OF ALCOHOL-RELATED VIOLENCE: AN EPIDEMIOLOGICAL AND PUBLIC HEALTH PERSPECTIVE

INGEBORG ROSSOW AND ELIN K. BYE

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## INTRODUCTION

### An Epidemiological and Public Health Perspective

Violence constitutes a significant health problem globally (Krug *et al.*, 2002). It is widely recognized that alcohol consumption is a significant risk factor for violent perpetration and violence victimization (Abbey, 2011; Chermack and Giancola, 1997; Leonard, 2008; Lipsey *et al.*, 1997; Roizen, 1997). We will in this chapter present an overview of research evidence on how and to what extent alcohol consumption is related to violence within an epidemiological and public health perspective. More specifically, we will show that alcohol use is a common ingredient in violent acts, that the risk of being involved in a violent act is higher among those who consume alcohol frequently and in large quantities, that the amount of violent acts in a society varies systematically with the overall alcohol consumption in that population and with the drinking pattern in that population.

### Defining the Problem

What do we mean by ‘violence’? While self-inflicted injuries and collective violence (e.g., riots or acts of war) are often included in the term violence (Krug *et al.*, 2002), we have limited the focus here to that of interpersonal violence. According to the World Health Organization, interpersonal violence can be divided into the following subcategories: family and intimate partner violence

(between family members and intimate partners, usually taking place in the home) and community violence (between individuals who are unrelated and who may or may not know each other, generally taking place outside the home) (Krug *et al.*, 2002). These subcategories are again divided by the nature of violent acts: physical, sexual, psychological and involving deprivation or neglect. We will in this review address only the former two (physical and sexual violence) in relation to alcohol use.

This leads us to the question of what we mean by alcohol use in relation violence. The term 'alcohol use' covers a wide range of behaviours and is assessed by different types of measures across studies. Examples of the latter are presence of alcohol at the time of the event as measured by breathalyzer or blood sample analysis; self-report in surveys or clinical interviews; assessment of alcohol intoxication by health personnel, police officers and so on; and aggregate measures of alcohol consumption such as sales figures. The various types of behaviour comprise, for instance, any drinking in the few hours prior to the violent event; annual alcohol consumption; frequency of intoxication; and indicators of alcohol dependence or abuse.

Alcohol-related violence is not only a problem for those who suffer violent injuries in terms of health and economic costs, but it has also a wide range of consequences at the societal level, for instance, in terms of its burden on health services, police forces and economic costs to society, and by generating fear and insecurity in the family, neighbourhood and community. While these consequences of alcohol-related violence are indeed part of the problem, a societal analysis is beyond the scope of this review.

## **THE EVIDENCE OF AN ASSOCIATION BETWEEN ALCOHOL CONSUMPTION AND INTERPERSONAL VIOLENCE**

The scientific literature on the alcohol–violence association is overwhelming. A quick search in various literature databases reveals thousands of publications that – based on the title only – address this topic. We will therefore provide a review partly drawing on previous, preferably recent, review studies but also refer to primary studies, when no fairly recent reviews are available or when primary studies add to previous reviews. Given the epidemiological and public health perspective, the literature review mainly covers studies that refer to the general population and that are of relevance to public health strategies.

Numerous studies have demonstrated some kind of statistical association between alcohol consumption and interpersonal violence. These studies have addressed the association between alcohol consumption and interpersonal violence in various ways by examining different aspects of the association and by applying different types of research designs and methods and different types of data. For instance, Roizen (1997) distinguished between event-based research, that is, samples of people to whom a serious event has occurred, and studies of the general population. We have in the following sections briefly summarized broad categories of studies that have demonstrated some kind of association between alcohol consumption and violence.



## Those Involved in Violence Have Often Been Drinking

There is a large research literature from event-based research which has demonstrated that alcohol often has been consumed by one or more of those involved in a violent act. Studies of perpetrators of violent crimes (suspected, arrested or convicted) have revealed that these offenders had often consumed alcohol shortly before the violent act (Chermack and Giancola, 1997; Graham *et al.*, 1998; Pernanen, 1991; Roizen, 1997). Yet, it should be noted that the proportion of offenders with alcohol present at the time of the event varies significantly across studies, from around 15% to some 60–85% of offenders (see Roizen, 1997 for a review). Correspondingly, studies of victims of violence have also shown that these had often been drinking prior to the violent act and, yet again, that the proportion of victims that had been drinking varies across studies, ranging from 5% to 85% (Roizen, 1997). The research literature that addresses domestic violence and intimate partner violence specifically has shown that partner-violent men are often heavy drinkers and heavy drinking often accompanies the violence (Leonard, 2001, 2005; Lipsey *et al.*, 1997). Correspondingly, reviews of the literature on alcohol consumption and sexual violence also show that in about half of all sexual assaults, alcohol had been consumed by the victim, the perpetrator or both (Abbey, 2011; Abbey *et al.*, 2004).

A significant part of the event-based research comprises studies of patients admitted to emergency rooms after injuries from violent acts. These have shown that these patients often have a blood alcohol concentration (BAC) above 0.05%, 0.08% or 0.10% (as measured in blood or breath) and/or they often report that they consumed alcohol within 6 hours prior to the injury (Cherpitel, 1997, 2007). Again, the prevalence of alcohol involvement in violent injuries varies significantly across studies, ranging between 22% and 84% in Cherpitel's recent review (2007). It is also evident from these studies that alcohol involvement occurs more frequently among patients with violence-related injury compared with other injured patients in the emergency room (Cherpitel, 2007).

Whether alcohol involvement varies by type and severity of the violent act has been addressed in some studies. Felson, Burchfield, and Teasdale (2007) noted that, as most research on alcohol and violence focuses on specific types of violence or examines violence generally, there is little evidence on whether alcohol intoxication is a greater risk factor for some types of violence than for others. In their study from a general population survey, perpetrators of physical assaults were just as likely as those of sexual assaults to have been intoxicated (Felson *et al.*, 2007). Correspondingly, in a large population-based survey in New Zealand, self-reported events of physical assaults and sexual assaults were compared with respect to the role of alcohol, and for both types of assaults, a little more than half of the victims reported that the perpetrator was affected by alcohol (Connor, You, and Casswell, 2009).

Several studies have, in various ways, addressed whether alcohol involvement varies with the severity of aggressive behaviour. In his classic study, Pernanen (1991) found no increase in the severity of violence when the assailants had been drinking. However, Leonard and colleagues found that a higher level of alcohol

consumption was associated with more severe aggression among males (Leonard, Collins, and Quigley, 2003), and similarly, Graham and co-workers found that greater intoxication of those involved in aggressive incidents was related to greater severity of aggression (Graham *et al.*, 2006). In a recent study, Wells and co-workers also found that drinking at the time may contribute to severity of aggression (Wells *et al.*, 2011).

Whereas alcohol involvement in the perpetrator and/or the victim is extensively studied, there are also a few studies that have addressed the role of alcohol in the drinking environment and among bystanders. These studies suggest that the overall level of intoxication of patrons in drinking establishments independently contributes to the frequency and severity of aggression by patrons (Graham and Homel, 2008).

### **Violence Is More Likely at Times and Places with Heavy Drinking**

The distribution of violent events over days of the week and hours of the day tends to display a similar pattern to that of drinking occasions, and, in particular, heavy drinking occasions. Thus, violent events are more likely to occur at night-time on weekends (Borges, Cherpitel, and Rosovsky, 1998; Briscoe and Donnell, 2003; Engeland and Kopjar, 2000; Pridemore, 2004) as are heavy drinking occasions (Demers, 1997; Mäkelä, Martikainen, and Nihtilä, 2005; Pridemore, 2004). In a similar vein, it is also shown that bars, pubs and clubs, which are often attended by heavy drinkers, are 'hot spots' for violent events (Graham and Homel, 2008).

### **Those Who Drink Heavily Are at Higher Risk of Being Involved in Violence**

Another type of study is surveys of general population samples in which respondents have been asked about their behaviour (for instance, in the past 12 months) and whether they have been involved in violent behaviour. These studies have generally shown that those who report a relatively high alcohol intake and/or frequent heavy drinking occasions are more likely to have been involved in violent acts (Rossow, 1996, 2000; Wells and Graham, 2003; Wells *et al.*, 2005), and it seems that it is, in particular, heavy drinking occasions that account for this association (Bye and Rossow, 2010; Dawson, 1997; Hope and Mongan, 2011; Leonard, 2008; Room and Rossow, 2001; Rossow, 1996; Rossow, Pape, and Wichstrøm, 1999). Thus, with increasing alcohol consumption, and particularly with increasing frequency of heavy drinking occasions, the risk of committing a violent act increases as does the risk of being a victim of violent assault. This has been shown with respect to physical violence, irrespective of subcategory (Room and Rossow, 2001), and with respect to domestic violence and intimate partner violence (Foran and O'Leary, 2008; Leonard, 2001). In a longitudinal cohort study, Boden and co-workers found that young adults with alcohol abuse/dependence symptoms had 4–12 times higher risk than others to be involved in violence, whether as offender or as victim (Boden, Fergusson, and Horwood, 2012). Also,

studies of clinical population samples have shown that the prevalence of violence perpetration and victimization is elevated among heavy drinkers (Leonard, 2008).

### **Heaviest Drinkers Account for a Minor Fraction of Alcohol-Related Violence**

Although the risk of violence involvement is highest among those with high consumption and heavy drinking frequency, it should also be noted that these drinkers constitute a relatively small fraction of all drinkers at risk. Thus, the heaviest drinkers in a population contribute to a disproportionately larger fraction of the overall amount of violence. Yet, studies have demonstrated that their share of all violent incidents is less than half and – more or less – it is the moderate drinkers, who constitute the vast majority of all drinkers, who also contribute to the majority of all alcohol-related violence (Poikolainen, Paljärvi, and Mäkelä, 2007; Rossow and Romelsjö, 2006). More specifically, Rossow and Romelsjö (2006) found that, of all self-reported events of alcohol-related quarrels and fights, less than half could be attributed to the 10% of the drinkers who drank the most. Moreover, of all hospital admissions for violent injuries (whether alcohol-related or not), 14% could be attributed to the upper 10% of the drinkers. Correspondingly, Poikolainen and co-workers (2007) found that 25% of all self-reported events of quarrels and arguments and 31% of all scuffles and fights could be ascribed to the upper 10% of the drinkers.

This implies that, from a public health perspective, preventive strategies directed at all drinkers (i.e., population strategies) may be more effective in reducing the overall amount of violent events in a population rather than strategies aimed at the small fraction of heavy drinkers (high-risk strategies). This is what is often referred to as the prevention paradox (Kreitman, 1986; Rossow and Romelsjö, 2006; Skog, 1999).

### **ACTORS, CONTEXT AND CULTURE**

While it is clear that a significant proportion of violent events are precipitated by alcohol consumption by one or several parties involved, it is only a tiny fraction of drinking occasions that are accompanied by aggressive behaviour. For example, among teenagers, the numbers of self-reported fights per 1,000 drinking occasions were in the range of 2–10 (Bye and Rossow, 2010). Thus, the relationship between alcohol consumption and violence is conditional: it is drinking *in combination with other factors* that is implicated (Room and Rossow, 2001). These other factors, which we know of so far, are many and include personal factors (e.g., temperament), contextual factors (e.g., provocation) and cultural factors (e.g., drinking pattern) (Chermack and Giancola, 1997; Graham and Homel, 2008; Graham *et al.*, 1998; Pernanen, 1991). Thus, the alcohol–violence association is highly complex and reflects an interaction of the effects of alcohol and these various other factors. The magnitude of the problem, therefore, varies with these factors, such as the

characteristics of the person, the context and the culture. We will briefly address this in the following section with some examples.

### **Alcohol-Related Violence Occurs More Frequently in Certain Persons**

Men are generally heavier drinkers than women and they drink more frequently to intoxication (Babor *et al.*, 2010), and, compared to women, they also account for a larger proportion of alcohol-related violent incidents (Pernanen, 1991). Furthermore, it seems that alcohol consumption increases the likelihood of aggressive behaviour more for men than for women. In experimental studies, alcohol has been shown to increase aggressive behaviour more among men than among women (Giancola *et al.*, 2002), although this is not consistently found (Hoaken and Pihl, 2000). However, in community-based surveys, it is found that alcohol-related violence is more frequently reported by men than by women, even when alcohol consumption and subjective feeling of intoxication is the same (Rossow, 1996). The latter study also demonstrated that, compared to middle-aged and elderly people, young people are at higher risk of being involved in alcohol-related violence, whether as perpetrator or victim, and this was also the case when drinking behaviour was taken into account (Rossow, 1996).

The association between alcohol consumption and violence seems also to be contingent on personality traits. In experimental studies, it has been demonstrated that people with high dispositional aggressivity are more likely to react aggressively under the influence of alcohol as compared with those with low dispositional aggressivity (Giancola, 2002). Using self-report data from a longitudinal cohort study, Norström and Pape (2010) have taken the importance of an aggressive predisposition in the alcohol–violence association further by demonstrating that the effect of alcohol consumption on violent behaviour appears to be confined to those with medium or high levels of suppressed anger (Norström and Pape, 2010).

### **Alcohol-Related Violence Occurs More Frequently in Certain Drinking Contexts**

In most countries (with available statistics), only a minor fraction of all alcohol is consumed in licensed drinking venues, like restaurants, taverns, bars, pubs or other drinking establishments (Babor *et al.*, 2010). Nevertheless, a fairly high proportion of violent incidents occur in such venues, and public drinking places like bars, pubs and clubs are often considered as hot spots for alcohol-related violence (Graham and Homel, 2008). In line with this, there are also indications that alcohol that is consumed in public drinking venues is more strongly associated with violence as compared with that consumed in private settings (Norström, 1998b).

The occurrence of violence differs significantly between various types of drinking venues. In two recent excellent reviews (Graham and Homel, 2008; Hughes *et al.*, 2011), a number of contextual factors in the drinking venues are identi-

fied that are particularly important in contributing to alcohol-related aggression. These comprise physical factors, such as crowdedness, noise and low lighting; social factors, such as drunk customers and permissive environment; and staff factors, such as poor staff control (see also Forsyth, Chapter 7).

### **Alcohol-Related Violence Occurs More Frequently in Certain Drinking Cultures**

As noted previously, the proportion of violent perpetrators who have been drinking varies significantly across studies, and it seems likely that much of this variation can be attributed to differences in drinking cultures, that is, differences in drinking patterns and in norms and expectancies about behaviour while drinking (Room and Rossow, 2001). Based on survey data among adolescents in 13 European countries, Bye and Rossow (2010) found that the prevalence of alcohol-related violence varied significantly between countries and was highest in countries where drinking often leads to intoxication. Moreover, there was a clear gradient in the magnitude of the alcohol–violence association; the strongest association was observed for the Nordic countries where drinking often leads to intoxication, whereas the least strong association was observed in the South European countries where intoxication is far less prevalent (Bye and Rossow, 2010).

### **HOW MUCH VIOLENCE CAN BE ATTRIBUTED TO ALCOHOL?**

As we have seen above, it is very clear that there is an *association* between alcohol consumption and violence in the sense that violence is more likely to occur in the event of drinking, at times and places in which heavy drinking occurs, and in persons who drink heavily. However, it is also likely that some of the alcohol-related violent events (i.e., in which alcohol has been consumed by one or several actors) would have occurred also in the absence of any alcohol. Many scholars in the field differ in their views as to whether – or to what extent – alcohol causes violence, yet these differences seem primarily to reflect varying definitions of causation (Room and Rossow, 2001).

From a prevention point of view, a key question is how much of the violence could possibly be prevented by interventions affecting alcohol-related violence. Consequently, assessment of what share of violence that is attributable to drinking is important.

Within the epidemiological literature, we often see that the attributable fraction (the proportion of a problem that can be attributed to one specific risk factor) is estimated from individual-level data by a simple formula comprising an estimate of the relative risk and the fraction of the population exposed to the risk factor (Lilienfeldt and Lilienfeldt, 1980). However, when it comes to alcohol and violence, there are several reasons why the association is not well represented by the traditional attributable fraction estimation. Most importantly, there are three parties or actors for whom alcohol exposure is of importance: the perpetrator(s), the victim(s) and the bystanders, and it seems extremely difficult, if at all possible,

to obtain and model data that would capture this complexity at the individual level.

An alternative approach is therefore to use aggregate-level data, where the complexity of underlying mechanisms and selection effects may constitute less of a problem (Norström and Skog, 2001; Room and Rossow, 2001). Next, we will review aggregate-level studies in some more detail and further address estimates of the alcohol attributable fraction derived from aggregate-level analyses.

### **The Alcohol–Violence Association in a Public Health Perspective**

Over the past two decades, we have witnessed a significant growth in studies addressing the alcohol–violence relationship by applying data at the aggregate level. Such data comprise violence rates – either homicide rates or rates of non-fatal violent assaults – and alcohol consumption per adult inhabitant per year, assessed as recorded alcohol sales. In particular, analyses of time series data applying statistical modeling techniques to minimize spurious effects are of relevance here and will be reviewed. These studies have generally demonstrated that an increase in alcohol consumption is followed by an increase in rates of fatal and non-fatal violence and vice versa (Norström, 2011; Rossow, 2000). In Western European countries, analyses of longer time series of violent crime rates have found significant effects of population drinking (Bye, 2007; Lenke, 1990; Norström, 1998a; Skog and Bjørk, 1988). In the same vein, studies of natural experiments, such as sudden and large changes in alcohol consumption due to rationing or strikes, have also demonstrated a significant impact of alcohol consumption on violent crime rates (Lenke, 1990; Rossow, 2002). There are also several studies from the United States that have shown an association between alcohol consumption and homicide rates in studies based on cross-sectional data, time series data and a combination of the two (Parker, 1995, 1998; Parker and Cartmill, 1998; Parker and Rebhun, 1995). Several studies from the former Soviet Republics have also demonstrated a positive and significant association between alcohol consumption (or alcohol-related mortality data as proxy) and homicide (Pridemore and Chamlin, 2006; Razvodovsky, 2003, 2007, 2010).

As we have noted previously, the drinking pattern, particularly in terms of drinking to intoxication, plays an important role in the alcohol–violence association. This is also demonstrated by comparisons of associations estimated by the same modeling technique applying time series data on population drinking (annual per capita volume) and homicide rates. Table 1.1 summarizes the findings from seven studies that have analyzed data from altogether 20 countries (Bye, 2008; Landberg and Norström, 2011; Norström, 2011; Ramstedt, 2011; Rossow, 2001, 2004). The level of hazardous drinking pattern is presented in the fourth column and based on two sources of information. One is that of Rehm and co-workers' (2003) assessment of country-specific hazardous drinking scores. These are on a four-point scale that reflects the degree of hazardous drinking, ranging from 1 (least harmful) to 4 (most harmful). The other source of information is on regional variation in drinking patterns within countries (Norström, 2011; Rossow, 2004).