

International Perspectives on Adolescent and Young Adult Drinking

SALME K. AHLSTRÖM, PH.D., AND ESA L. ÖSTERBERG, M.SC.

Alcohol consumption by adolescents and young adults varies greatly in different countries and cultures, in different population groups within a country, and over time. Analyses of per capita consumption in different countries provide some information on drinking patterns of young people in various countries. School-based surveys conducted in a variety of European countries and in the United States offer more specific insight into the drinking behavior of this age group. Such surveys have analyzed variables such as age of onset of drinking; lifetime frequency of drinking; drinking to intoxication; frequency, amount, and timing of current drinking; and drinking consequences. These studies have demonstrated that drinking patterns of young people in, for example, Scandinavian, Anglo-Saxon, and Mediterranean countries vary greatly. Further analyses have explored the influence of social norms and related factors as well as alcohol availability and pricing on alcohol consumption among adolescents and young adults. The generalizability of the findings is limited, however, by the fact that most studies have been conducted in the United States and Europe. **KEY WORDS:** young adult; adolescents; AOD (alcohol and other drug) consumption; AOD use frequency; AOD intake per occasion; AOD use pattern; age of AODU (alcohol and other drug use) onset; heavy drinking; AOD abstinence; factors determining AOD demand; AOD effects and consequences; international AODR (alcohol and other drug related) problems; international aspects; ethnic differences; cultural patterns of drinking; gender differences; minimum drinking age laws; prevention through decreasing availability and accessibility; World Health Organization (WHO); European School Survey Project on Alcohol and Other Drugs (ESPAD)

Studies conducted in various countries have demonstrated that both the frequency of drinking alcoholic beverages and the amount of alcohol consumed per person or per occasion vary greatly among different countries and cultures, among different population groups within a given country, and for each population over time. Similarly, the rates of alcohol-related problems vary greatly among different countries and among different population groups. These differences are found not only for adult drinkers but also for adolescents and young adults.

One useful measure that can easily be determined in many countries is the total alcohol consumption of the popu-

lation, which can be converted to average per capita consumption. This variable is related to the prevalence of heavy alcohol use and also is an important indicator of the prevalence of alcohol-related problems (Bruun et al. 1975; Edwards et al. 1994). The relationship between average per capita consumption and the level of alcohol-related problems in a population is influenced by the following factors:

- The number of drinkers in the population and their drinking habits (Babor et al. 2003). For example, if total alcohol consumption can be attributed to only 20 percent of the population, who mostly drink on the

weekends (and the remaining population does not drink), the prevalence of heavy drinking and of alcohol-related problems will be different than if alcohol consumption can be attributed to 90 percent of the population who generally have only one drink per day.

SALME K. AHLSTRÖM, PH.D., is a research professor, and ESA L. ÖSTERBERG, M.SC., is a senior researcher, both in the Alcohol and Drug Research Group, National Research and Development Centre for Welfare and Health, Helsinki, Finland.

- The drinking culture and attitudes toward drinking and alcohol-related problems. “Harmful” drinking and alcohol-related problems are in part culturally defined—that is, a behavior (e.g., drinking to intoxication) considered problematic in one culture may not be thought of as problematic in another culture.
- Overall historical, cultural, economic, and social circumstances that affect many areas related to alcohol consumption. For instance, if drinking habits are similar in two countries but people in one of those countries are significantly less likely to own a car, then the frequency of drunk driving and the proportion of alcohol-related deaths among all traffic fatalities will differ greatly between the two countries.
- Alcohol control measures and their enforcement. For instance, increases in the legal drinking age and effective enforcement of the new age limit will lead to lower alcohol consumption levels and fewer alcohol-related problems among young adults and adolescents.

The relationships between alcohol consumption and alcohol-related problems, as well as the factors that influence these relationships, apply to both adult and adolescent drinking. When trying to compare adolescent or young adult alcohol consumption across countries or cultures, however, researchers must keep in mind that the definitions of these two developmental stages can vary according to the cultural and historical background of the society under investigation. Broadly defined, adolescence and young adulthood include the period of transition from childhood to adulthood. It is the time when a person acquires the skills needed to cope with the emotional, physical, social, and economic separation from parents. Ideally, it also is the time when a person paves the way for establishing his or her own family, raising children, and participating in social and work life as well as leisure time activities as an independent individual. Because these developments

may occur at different ages in different cultures, it is difficult to define adolescence and young adulthood in terms of exact ages. For practical purposes, in most Western industrialized societies, adolescence is defined as ages 14 through 18 and young adulthood as ages 19 through 25 (Ahlström 2000). In some studies, even 29-year-olds have been considered young adults (Rehm et al. 2001).

After a brief review of alcohol consumption patterns in the entire population (which to a certain extent also reflect consumption patterns by younger people), this article provides an international perspective on alcohol consumption among adolescents and young adults and examines gender differences, abstinence rates, the amount and frequency of drinking, as well as drinking to intoxication. This discussion considers not only the actual drinking patterns but also the drinking contexts (i.e., the time and place of drinking and the nature of the drinking occasion). It is important to keep in mind, however, that the information on drinking patterns usually comes from survey studies, which can differ greatly in how different aspects of drinking patterns are defined and measured (Simpura and Karlsson 2001). Furthermore, most of the available research data were obtained in the developed countries, which may limit the generalizability of these research findings to adolescent and young adult drinking in other areas of the world.

INTERNATIONAL COMPARISONS OF ADULT ALCOHOL CONSUMPTION PATTERNS

Drinking alcohol is a social behavior in the sense that it is something young people learn and practice with other members of their culture (Edwards et al. 1994). Drinking patterns among adolescents and young adults in any country or culture consequently are related in many ways to the drinking patterns of the entire population (Room 2004). Therefore, a global review of per capita alcohol consumption and general drinking patterns also gives a first rough description of the differences in the amounts and patterns of adolescent

and young adult drinking in different parts of the world. Adolescent and young adult drinking behaviors may show some systematic deviation from adult drinking behaviors in a given culture, however, because of differences in living conditions between adolescents/young adults and the adult population and because of the influences of international youth culture and mass media.

One source of information on alcohol consumption and its consequences in various areas of the world is the World Health Organization (WHO). For surveying purposes (e.g., to estimate the global burden of disease), WHO has divided the world into 15 geographical areas based on adult and infant mortality. WHO also has used these areas to estimate the levels of alcohol consumption and proportions of drinkers around the globe.¹ However, countries within these 15 areas are not always uniform with regard to alcohol consumption and drinking habits. For example, Iceland and Norway, with a total alcohol consumption of about 7 liters per person age 15 and older, belong to the area “Europe A,” where the average alcohol consumption is 13 liters (i.e., almost twice that in Iceland or Norway). Despite these kinds of problems, the WHO data help to broadly characterize the levels and trends in alcohol consumption and drinking patterns in different parts of the world.

General Trends in Total Alcohol Consumption

Rehm and colleagues (2003) conducted an international comparison of average alcohol consumption in people age 15 and older around the world using the WHO data. These analyses found the following:

- Average alcohol consumption was highest in Europe, the Americas, and established market economies such as Australia, Japan, and New Zealand, although there were exceptions (e.g., the Muslim countries of the former

¹ These data are derived primarily from population-weighted averages of country estimates, but in many cases the figures include a substantial element of extrapolation and expert judgment (Babor et al. 2003).

Soviet Union and Yugoslavia and the least developed countries in South and Central America).

- Average alcohol consumption generally was lower in Africa and Asia.
- Alcohol consumption was particularly low in the Muslim countries in the eastern Mediterranean region and on the Indian subcontinent.

Other studies have examined changes in per capita or per adult alcohol consumption since the mid-1970s (Babor et al. 2003) and have found that:

- Alcohol consumption appears to have declined in many countries with previously high alcohol consumption, particularly in the traditional wine-producing and wine-drinking countries of Europe (i.e., France, Italy, Portugal, and Spain) but also in the wine-producing countries of South America.
- In many other established market economies, such as Canada and the United States, a smaller but still significant decrease in total alcohol consumption has occurred over the same period.
- In most countries of the Americas and Africa and in the eastern Mediterranean countries, alcohol consumption has been constant or slightly decreasing during recent decades.
- Alcohol consumption appears to have increased the most in Asian countries.
- Some developed countries (e.g., Denmark, Finland, Ireland, and Japan) have countered the trend toward decreasing alcohol consumption; in fact, consumption there has increased.

Proportions of Drinkers

The proportion of people who drink any alcohol varies greatly among different countries. In general, the highest

proportion of drinkers is found in Europe, Australia, and New Zealand, where 80 to 90 percent of all adults are drinkers (Rehm et al. 2003). In the Western Pacific, 80 to 90 percent of all men are drinkers. In the Americas, about two-thirds of adults are drinkers. For instance, the share of drinkers is 73 percent in Canada and 65 percent in the United States (Babor et al. 2003). In African countries, around half of the men and one-third of the women drink alcohol. In the rest of the world, only a minority of adults are drinkers.

In all countries, men are more likely to drink alcohol than are women. The differences between men and women in the proportion of drinkers are particularly marked in China and Southeast Asia. Women are especially likely to be abstainers in the Indian subcontinent and Indonesia as well as in the Middle East (Rehm et al. 2003).

Differences in Drinking Patterns

Many studies (primarily based on survey data) have analyzed drinking patterns around the world. These studies consistently have found significant differences in drinking patterns between men and women, between younger and older people, and often among ethnic or religious groups. For example, Ahlström and colleagues (2001a) found that, on average, men drink significantly more than women do. In many countries, men account for 70 to 80 percent or more of the total alcohol consumption, and in some developing countries, men's share of overall alcohol consumption is even greater. For instance, survey data from China indicate that men consume about 95 percent of all alcohol (Babor et al. 2003).

Alcohol consumption also is unevenly distributed among the drinking population in any country—that is, in all societies, most of the alcohol is consumed by a relatively small proportion of drinkers. For example, in the United States, the top 20 percent of drinkers consume almost 90 percent of all alcohol (Greenfield and Rogers 1999). And in China, the top 12.5 percent of the drinkers (corresponding to 7.5 percent of the population) have been estimated

to account for 60 percent of total alcohol consumption (Wei et al. 1999). In general, the proportion of drinkers who account for most of the alcohol consumption probably is smaller in countries with low per capita alcohol consumption—that is, in these countries alcohol consumption is more concentrated (Edwards et al. 1994).

Intoxication and Harmful Drinking

Countries also vary in how often people drink to intoxication, how intoxicated people get, and how people behave while intoxicated. Generally, men are more likely than women to consume large quantities of alcoholic beverages or drink to intoxication (Babor et al. 2003). Also, the proportion of heavy drinkers and the frequency of heavy-drinking occasions are higher among men than among women. Consequently, patterns of harmful drinking² are more common in men than in women. Some evidence suggests that this phenomenon may be even more pronounced in developing countries (Room et al. 2002).

According to WHO's data on the global burden of disease, people in the former socialist countries of Eastern Europe, in Middle and South America, and in parts of Africa exhibit the most detrimental drinking patterns. For example, in these countries, drinking to intoxication is a characteristic mediator between alcohol consumption and alcohol-related morbidity, mortality, and social harms. Conversely, drinking patterns appear to be least detrimental in Western Europe, as represented by the patterns found in the wine-producing countries of southern Europe, where people primarily consume wine with meals and do not drink to intoxication (Rehm et al. 2003).

² Harmful drinking refers to any drinking pattern where drinking causes immediate harm to the drinker or others, including physical harm (e.g., resulting from alcohol-related unintended injuries and car crashes), social harm (e.g., arguments with family members or others), economic harm (e.g., lost property), or legal harm (e.g., conviction for drunk driving).

DRINKING PATTERNS OF ADOLESCENTS AND YOUNG ADULTS

The drinking patterns of people in various age groups are difficult to compare internationally because population surveys conducted in different countries often use different age groupings and varying measures of alcohol consumption levels. Furthermore, most surveys that compare drinking in various age groups have been conducted in the established market economies of Europe and North America, and their findings do not always apply to other regions of the world. Nevertheless, two common findings have emerged from these studies (Babor et al. 2003): (1) abstinence is more prevalent in older age groups than among young adults, and (2) intoxication is more frequent among young adults than older people.

One survey that has provided basic information on adolescents' alcohol consumption in various European countries is the European School Survey Project on Alcohol and Other Drugs (ESPAD) (Hibell et al. 2004). This multinational study of drinking habits and drug use among 15- to 16-year-old European students was first conducted in 1995, and a second survey followed in 1999. For the most recent data collection, conducted in 2003, students from 35 European countries filled out anonymous self-administered in-school questionnaires. Sample sizes, which were designed to be nationally representative, ranged from 555 in Greenland to almost 6,000 in Poland. The findings of this and other relevant surveys are summarized in the following sections.

Age at Onset of Drinking and Prevalence of Abstinence

Both the long-term and short-term health effects of alcohol consumption depend at least in part on the age when the person begins to consume alcohol. For example, results from a U.S. survey indicate that compared with those who begin drinking at a later age, respondents who begin drinking in their teenage years are more likely during late adolescence and adulthood to experience

alcohol-related unintentional injuries (e.g., motor vehicle crashes, falls, burns, and drownings) and to be involved in fights after drinking (Hingson et al. 2000). Furthermore, early onset of regular alcohol consumption is a significant predictor of lifetime alcohol-related problems, at least in some Western countries (Chou and Pickering 1992; Grant and Dawson 1997; Kraus et al. 2000; Pulkkinen et al. 2003). However, it is not clear whether starting to drink at an early age actually causes alcohol-related problems and alcohol use disorders or whether it simply indicates an existing vulnerability to alcohol use disorders (Dawson 2000).

In the United States, the average age of first-time use of alcohol is about 13 years. In contrast, in a survey conducted in 23 European countries in the late 1990s, more than half of 11-year-olds reported having tasted alcohol (Jernigan 2001). Still, at the beginning of adolescence, the abstinence rate in all European countries is high compared with the adult abstinence rate.

In the ESPAD study, the highest abstinence rate among European youths, 36 percent, was found in Iceland (table 1). In the other Nordic alcohol-monopoly countries Finland, Norway, and Sweden (i.e., former spirit-consuming countries³), about 20 percent of the 15- to 16-year-old students had not consumed any alcoholic beverages during the previous 12 months. Also, in some of the southern European wine-preferring countries, many of which are characterized as having the highest alcohol consumption in Europe, abstinence rates among youth were high (e.g., 26 percent in Portugal, 25 percent in Spain, and 20 percent in France) (see table 1). Conversely, the abstinence rate in Greece—also a wine-preferring country—was only 9 percent. Equally low or even lower abstinence rates also were found in beer-preferring countries such as Austria, the Czech Republic, Denmark, Germany, and the United Kingdom (Hibell et al. 2004). All of these abstinence rates are substantially lower than in the United States, where 41 percent of students reported not having consumed any alcoholic beverages during the last 12 months (Johnston et al. 2004).

Between adolescence and the onset of adulthood, abstinence rates decreased in most countries, and were about the same for people at age 25 as for middle-aged adults. Moreover, in many countries, differences in abstinence rates between males and females were smaller at age 15 than at age 25 (see Hibell et al. 2004; Rehm et al. 2001). In fact, among 15- to 16-year-old students, females in many countries showed lower abstinence rates than males (table 1).

Lifetime Frequency of Drinking

The frequency of alcohol consumption among adolescents is still relatively low. In almost all ESPAD countries and in the United States, less than half of 15- to 16-year-old students were considered frequent drinkers—that is, they had consumed alcohol on 40 or more occasions during their lifetime (see table 2) (Hibell et al. 2004). The only country where 50 percent of adolescents reported such a frequency of alcohol consumption (i.e., were frequent drinkers) was Denmark. Otherwise, the countries with the highest proportion of frequent drinkers were Austria, the Czech Republic, the Netherlands, Ireland, and the United Kingdom. The lowest proportions of frequent drinkers were found in Greenland, Iceland, Norway, Portugal, and Turkey. In most countries, more boys than girls reported a lifetime prevalence of drinking at least 40 times.

Drinking to Intoxication

In many cultures, drinking to intoxication is particularly characteristic of adolescents and young adults, and young males are more likely to drink to intoxication than young females (Currie et al. 2004; Hibell et al. 2004; Kuntsche et al. 2004).

According to the ESPAD study, it is not uncommon for students to drink

³ Although some decades ago there seemed to be relatively clear distinctions among European countries with respect to the beverages of preference—that is, northern European countries were classified as spirit-consuming, Anglo-Saxon and Central European countries were considered beer-consuming, and southern European countries were considered wine-consuming—drinking patterns in many countries have changed, and these distinctions have been blurring in recent decades.

to intoxication, although the prevalence of drunkenness varies considerably across the countries (see table 2). Thus, in the Nordic and Baltic countries as well as in Austria, the Czech Republic, Ireland, and the United Kingdom, nearly 20 percent or more of students reported having been drunk at least 20 times in their lives, compared with about 5 percent or less of students in most southern European countries and in Belgium and the Netherlands (Hibell et al. 2004). In other central European and in eastern European countries as well as in the United States, the proportions of students who reported having been drunk at least 20 times were intermediate.

Frequency and Amount of Drinking

The ESPAD study also compared the number of drinking occasions and the amounts consumed per occasion by adolescents in the different countries. These analyses found that in the wine-producing countries (i.e., France, Greece, Italy, and Portugal), adolescents' alcohol consumption can be characterized as fairly frequent but modest (Ahlström et al. 2001*b*). In the Nordic countries (i.e., Finland, Iceland, Norway, and Sweden), in contrast, alcohol consumption can be characterized as seldom but to intoxication. In the beer-preferring nations of Denmark, Ireland, and the United Kingdom, the students drink frequently and to intoxication (see the figure). However, this is not the case in all beer-preferring countries (e.g., Germany, the Czech Republic, and Belgium), demonstrating that drinking habits are not properties of alcoholic beverages and that certain kinds of beverages may be used in different ways. Nevertheless, the prevailing drinking patterns exhibit some relationship with the preferred alcoholic beverages.

Time of Alcohol Consumption

One way to describe drinking patterns is to investigate how alcohol consumption is integrated into everyday activities (e.g., consumption with meals) (Ahlström-Laakso 1976). In many wine-producing countries, drinking is an integral part of meals. For instance, Italian adults

rarely drink between meals. In contrast, in countries such as the United Kingdom, the United States, and the Nordic countries, most people drink at times other than meals.

The drinking patterns of adolescents and young adults in the various countries mirror those of the adults. Thus, the prevalence of intoxication (which typically results from alcohol consumption outside of meals) was much lower among

adolescents in wine-producing European countries than among adolescents in Anglo-Saxon and Nordic countries (Currie et al. 2004; Hibell et al. 2004). In recent years, however, people in Mediterranean countries, especially young people, have begun to consume wine at times other than meals (Nahoum-Grappe 1995), and adolescents in these countries have begun to drink to intoxication more frequently. These

Table 1 Abstinence Rates Among European and American 15- and 16-Year-Olds During the Last 12 Months*

Country	All Students (%)	Males (%)	Females (%)
Austria	7	8	6
Belgium	14	13	15
Bulgaria	14	13	14
Croatia	18	15	21
Cyprus	21	16	26
Czech Republic	5	5	5
Denmark	5	4	5
Estonia	13	14	11
Faroe Islands	24	24	24
Finland	20	22	19
France	20	18	22
Germany	7	7	7
Greece	9	7	10
Greenland	27	32	23
Hungary	16	16	16
Iceland	36	38	35
Ireland	12	14	10
Isle of Man	6	8	4
Italy	18	15	20
Latvia	13	14	12
Lithuania	6	6	6
Malta	10	9	11
Netherlands	15	14	15
Norway	24	26	21
Poland	15	12	17
Portugal	26	24	28
Romania	20	16	23
Russia (Moscow)	14	18	11
Slovak Republic	10	10	9
Slovenia	17	15	19
Spain	25	26	24
Sweden	23	23	23
Switzerland	12	12	13
Turkey	65	60	72
Ukraine	16	17	15
United Kingdom	9	10	8
United States	41	43	39

*Data on European adolescents was taken from the 2003 European School Project on Alcohol and Other Drugs (ESPAD).

SOURCE: Hibell et al. 2004.

low in the Muslim countries of the eastern Mediterranean region and the Indian subcontinent. In recent decades, alcohol consumption has decreased especially in southern Europe and increased in Asia.

Despite its similarities to adult drinking, alcohol consumption by adolescents and young adults has some special characteristics because the way of life and living conditions of 14- to 25-year-olds in any culture differ somewhat from those of older adults. For example, the mass media (particularly the advertising industry), the Internet, and international youth cultures also affect the drinking patterns of adolescents and young adults (Unger et al. 2003; Carroll and Donovan 2002).

One difference between adolescent/young adult drinking patterns and adult drinking patterns concerns gender differences. In almost all cultures, men abstain less frequently than women and drink more frequently and in greater quantities than women. Among adolescents and young adults, especially at the onset of adolescence, however, these gender differences are less prominent or do not exist at all. Moreover, in many cultures, drinking to intoxication is more characteristic of adolescent and young adult drinking than of drinking by older adults. Finally, most of the alcohol-related problems that affect adolescents result from periodic heavy drinking and intoxication rather than from chronic alcohol consumption, because relatively few adolescents drink heavily on a regular basis. In contrast, older adults more frequently experience the adverse health effects (e.g., liver disease) that result from long-term alcohol consumption.

Because most of the information researchers have acquired about the drinking patterns of adolescents and young adults is based on data obtained in European and North American countries, global comparisons of drinking patterns are difficult to make. In addition, less information is available on young adults than on adolescents, who, through school-based surveys, can be accessed more easily. To address these limitations and to allow for truly global and reliable comparisons of drinking patterns in adolescents and young adults, future

studies should focus more on regions outside North America and Europe. Such analyses also could reveal characteristic patterns in the factors affecting adolescent and young adult drinking behavior. Finally, studies following participants over time (i.e., longitudinal studies) are needed to better evaluate the findings of one-time cross-sectional studies.

The generalizability of existing research on the effects of alcohol pricing on adolescent and young adult drinking is limited because most of these studies have been conducted in the United States. Recent price decreases in Europe, especially in the Nordic countries, however, will provide researchers with an opportunity to study whether changes in price particularly affect alcohol consumption by adolescents and young adults in other countries as well. ■

REFERENCES

- AHLSTRÖM, S.K. The young adult. In: Cooper, D.B., ed. *Alcohol Use*. Abingdon, England: Radcliffe Medical Press, 2000. pp. 39–50.
- AHLSTRÖM, S.K. Family practices and use of legal and illegal drugs among adolescents: A review. *Nordic Studies on Alcohol and Drugs, English Supplement* 19:76–82, 2002.
- AHLSTRÖM, S.K.; BLOOMFIELD, K.; AND KNIBBE, R. Gender differences in drinking patterns in nine European countries: Descriptive findings. *Substance Abuse* 22:69–85, 2001a. PMID: 12466670
- AHLSTRÖM, S.K.; METSO, L.; AND TUOVINEN, E.L. Ungdomars bruk av rusmedel i Europa 1995 och 1999. *Nordisk Alkohol & Narkotikatidskrift* 18:283–295, 2001b.
- AHLSTRÖM-LAAKSO, S. European drinking habits: A review of research and some suggestions for conceptual integration of findings. In: Everett, M.V.; Waddell, J.O.; and Heath, D.B.; eds. *Cross-Cultural Approaches to the Study of Alcohol: An Interdisciplinary Perspective*. Chicago: Aldine, 1976. pp. 119–132.
- BABOR, T.; CAETANO, R.; CASSWELL, S.; ET AL. *Alcohol: No Ordinary Commodity. Research and Public Policy*. Oxford, England: Oxford University Press, 2003.
- BRUUN, K.; EDWARDS, G.; LUMIO, M.; ET AL. *Alcohol Control Policies in Public Health Perspective*. Forssa, Finland: Finnish Foundation for Alcohol Studies, 1975.
- CARROLL, T.E., AND DONOVAN, R.J. Alcohol marketing on the internet: New challenges for harm reduction. *Drug and Alcohol Review* 21:83–91, 2002. PMID: 12189009
- CHOU, S.P., AND PICKERING, R.P. Early onset of drinking as a risk factor for lifetime alcohol-related problems. *British Journal of Addiction* 87:1199–1204, 1992. PMID: 1511233
- CURRIE, C.; ROBERTS, C.; MORGAN, A.; ET AL.; EDS. *Young People's Health in Context. Health Behaviour in School-Aged Children (HBSC) Study: International Report From the 2001/2002 Survey*. Health Policy for Children and Adolescents, No. 4. Geneva: World Health Organization, WHO Regional Office for Europe, 2004.
- DAWSON, D.A. The link between family history and early onset alcoholism: Earlier initiation of drinking or more rapid development of dependence? *Journal of Studies on Alcohol* 61:637–646, 2000. PMID: 11022800
- EDWARDS, G.; ANDERSON, P.; BABOR, T.F.; ET AL. *Alcohol Policy and the Public Good*. New York: Oxford University Press, 1994.
- GRANT, B.F., AND DAWSON, D.A. Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse* 9:103–110, 1997. PMID: 9494942
- GREENFIELD, T.K., AND ROGERS, J.D. Who drinks most of the alcohol in the U.S.? The policy implications. *Journal of Studies on Alcohol* 60:78–89, 1999. PMID: 10096312
- GROSSMAN, M.; CHALOUPOKA, F.J.; SAFFER, H.; AND LAIXUTHAI, A. Effects of alcohol price on youth: A summary of economic research. In: Boyd, G.M.; Howard, J.; and Zucker, R.A.; eds. *Alcohol Problems Among Adolescents: Current Directions in Prevention Research*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1995. pp. 225–242.
- GROSSO, L. "Current Trends of Drug Use in Italy." Paper presented at the 16th ELISAD Annual Meeting, Florence, Italy, October 21–23, 2004.
- HIBELL, B.; ANDERSSON, B.; AHLSTRÖM, S.; ET AL. *The 1999 ESPAD Report: Alcohol and Other Drug Use Among Students in 30 European Countries*. Stockholm: Swedish Council for Information on Alcohol and Other Drugs, 2000.
- HIBELL, B.; ANDERSSON, B.; BJARNASSON, B.; ET AL. *The 2003 ESPAD Report: Alcohol and Other Drug Use Among Students in 35 European Countries*. Stockholm: Swedish Council for Information on Alcohol and Other Drugs, 2004.
- HINGSON, R.W.; HEEREN, T.; JAMANKA, A.; AND HOWLAND, J. Age of drinking onset and unintentional injury involvement after drinking. *JAMA: Journal of the American Medical Association* 284:1527–1533, 2000. PMID: 11000646
- JACKSON, K.M.; SHER, K.J.; AND PARK, A. Drinking among college students: Consumption and consequences. In: Galanter, M., ed. *Recent Developments in Alcoholism, Vol. 17: Alcohol Problems in Adolescents and Young Adults. Epidemiology, Neurobiology, Prevention, Treatment*. New York: Springer, 2005. pp. 85–117. PMID: 15789861

- JERNIGAN, D.H. *Global Status Report: Alcohol and Young People*. Geneva: World Health Organization, 2001.
- JOHNSTON, L.D.; O'MALLEY, P.M.; AND BACHMAN, J.G. *Monitoring the Future National Survey Results on Adolescent Drug Use: Overview of Key Findings, 1999*. Bethesda, MD: National Institute on Drug Abuse, 2000.
- JOHNSTON, L.D.; O'MALLEY, P.M.; BACHMAN, J.G.; AND SCHULENBERG, J.E. *Monitoring the Future National Survey Results on Drug Use, 1975–2003, Volume I: Secondary School Students*. NIH Pub. No. 04–5507. Bethesda, MD: National Institute on Drug Abuse, 2004.
- KRAUS, L.; BLOOMFIELD, K.; AUGUSTIN, R.; AND REESE, A. Prevalence of alcohol use and the association between onset of use and alcohol-related problems in a general population sample in Germany. *Addiction* 95:1389–1401, 2000. PMID: 11048357
- KUNTSCHKE, E.; REHM, J.; AND GMEL, G. Characteristics of binge drinkers in Europe. *Social Science & Medicine* 59:113–127, 2004. PMID: 15087148
- LINTONEN, T.P.; RIMPELÄ, M.K.; VIKAT, A.; AND RIMELÄ, A.H. The effect of societal changes on drunkenness in early adolescence. *Health Education Research* 15:261–269, 2000. PMID: 10977374
- NAHOUM-GRAPPE, V. France. In: Heath, D.B., ed. *International Handbook on Alcohol and Culture*. Westport, CT: Greenwood Press, 1995. pp. 75–87.
- OOSTVEEN, T.; KNIBBE, R.; AND DE VRIES, H. Social influences on young adults' alcohol consumption norms, modeling, pressure, socializing, and conformity. *Addictive Behaviour* 21:187–197, 1996. PMID: 8730520
- ÖSTERBERG, E., AND KARLSSON, T., EDS. *Alcohol Policies in EU Member States and Norway: A Collection of Country Reports*. Helsinki: National Research and Development Centre for Welfare and Health (STAKES), 2002.
- PULKKINEN, L.; FYRSTEN, S.; KINNUNNEN, U.; ET AL. *Erään ikäluokan selviämistarina*. Jyväskylä: Jyväskylän Yliopistoon Psykologian Laitoksen Julkaisuja, 2003.
- QUIGLEY, L.A., AND MARLATT, G.A. Drinking among young adults: Prevalence, patterns, and consequences. *Alcohol Health & Research World* 20(3): 187–192, 1996.
- RAHKONEN, O., AND AHLSTRÖM, S.K. Trends in drinking habits among Finnish youth from 1973 to 1987. *British Journal of Addiction* 84:1075–1083, 1989. PMID: 2790271
- REHM, J.; GMEL, G.; ROOM, R.; AND ULRICH, F. Average volume of alcohol consumption, drinking patterns and related burden of mortality in young people in established market economies of Europe. *European Addiction Research* 7:148–151, 2001. PMID: 11509845
- REHM, J.; REHN, N.; MONTEIRO, M.; ET AL. The global distribution of average volume of alcohol consumption and patterns of drinking. *European Addiction Research* 9:147–156, 2003. PMID: 12970583
- ROOM, R. Drinking and coming of age in a cross-cultural perspective. In: National Research Council and Institute of Medicine. Bonnie, R.J., and O'Connell, M.E., eds. *Reducing Underage Drinking: A Collective Responsibility*. Washington, DC: National Academies Press, 2004. pp. 678–698.
- ROOM, R.; JERNIGAN, D.; CARLINI-MARLATT, B.; ET AL. *Alcohol in Developing Societies: A Public Health Approach*. Helsinki: Finnish Foundation for Alcohol Studies, 2002.
- SIMPURA, J., AND KARLSSON, T. *Trends in Drinking Patterns in Fifteen European Countries, 1950 to 2000: A Collection of Country Reports*. Helsinki: STAKES, 2001.
- UNGER, J.B.; SCHUSTER, D.; ZOGG, J.; ET AL. Alcohol advertising exposure and adolescent alcohol use: A comparison of exposure measures. *Addiction Research and Theory* 11:177–193, 2003.
- WEI, H.; DERSON, Y.; SHUIYUAN, X.; ET AL. Alcohol consumption and alcohol-related problems. Chinese experience from six area samples, 1994. *Addiction* 94:1467–1476, 1999. PMID: 10790899
- WILLIAMS, J.; CHALOUKPA, F.J.; AND WECHSLER, H. Are there differential effects of price and policy on college students' drinking intensity? *Contemporary Economic Policy* 23:78–90, 2005.
- World Health Organization (WHO). *Global Status Report: Alcohol Policy*. Geneva: WHO, 2004.