

Determinants of Drinking

The Issue in Brief

Much attention has been paid to the various determinants—biological and environmental—that influence drinking behavior, particularly among young people, and to their relative impact.

These can fall into four groups:

- genetic predisposition;
- individual characteristics;
- social and economic factors;
- environmental determinants.

Research often focuses on just one group of factors at a time. However, their influence is complex and interrelated, and effects cannot easily be disaggregated.

While there is broad agreement that multiple factors have a role in drinking behavior, considerable debate surrounds the following questions:

- Which are the most influential determinants?
- How do they interact?
- How can they best be addressed through interventions?

The evidence:

Genetic predisposition plays an important role in shaping both drinking patterns and outcomes but is modified by interaction with social and economic variables.

Various individual characteristics—including current age, the age at which drinking commences, personality traits, and physical and mental health status—affect the development of drinking patterns.

Socioeconomic status, notably social marginalization and economic deprivation, influences the relationship between drinking and problems.

Family is pivotal to forming alcohol expectancies and drinking behavior, as are peer interactions and influences, both of which have a role in social networks.

ICAP Issues Briefings address specific topics relevant to alcohol policy, providing a succinct overview of key evidence. Where appropriate, they include an analysis of intended and unintended outcomes, country-level case studies, and main positions around a particular debate.

Finally, the broader environment within which drinking develops, including general drinking culture, its norms and practices, religious beliefs, and the availability of alcohol and its saliency, is also significant in how drinking patterns develop and progress.

The complexity of the interactions among different factors makes cause-and-effect relationships difficult to ascertain.

Individual influences cannot be uncoupled from other factors that are strong in people's lives and shape perceptions and behaviors.

Relevant ICAP publications:

Heath, D. (2000). *Drinking occasions*. New York: Brunner-Routledge.

Houghton, E., & Roche, A. (Eds.). (2001). *Learning about drinking*. New York: Brunner-Routledge.

International Center for Alcohol Policies (ICAP). (2009). *Drinking patterns and genetics*. ICAP Health Issues (Online). Available: www.icap.org/PolicyTools/ICAPHealthBriefings.

International Center for Alcohol Policies (ICAP). (2009). *Physical availability of beverage alcohol: Monopolies, licensing, and outlet density*. ICAP Issues Briefings (Online). Available: www.icap.org/PolicyTools/ICAPIssuesBriefings.

International Center for Alcohol Policies (ICAP). (2009). *Alcohol marketing and young people*. ICAP Issues Briefings (Online). Available: www.icap.org/PolicyTools/ICAPIssuesBriefings.

Martinic, M., & Measham, F. (Eds.). (2008). *Swimming with crocodiles: The culture of extreme drinking*. New York: Routledge.

What Is the Issue?

Much attention has been paid to the relative impact of various factors that influence drinking behavior, particularly among young people.

Determinants of drinking include biological, social, and economic factors, as well as the wider drinking environment.

These factors have a significant impact on individual response to alcohol consumption and outcomes, and help shape consumer choices and behaviors.

Research often focuses on these factors one by one; however, their influence is complex and interrelated, and effects cannot easily be disaggregated.

Substantial interdisciplinary research is needed to better understand how different determinants interact.

Similarly, there is a need for multi-component approaches to policy and prevention that simultaneously address these determinants.

What Is the Debate?

While there is broad agreement that multiple factors have a role in drinking behavior, considerable debate surrounds the following questions:

- Which are the most influential determinants?
- How do they interact?
- How can they best be addressed through interventions?

Some argue that, when it comes to young people, family, peers, and the general drinking culture are central in determining drinking:

“While adolescents are experiencing community-level influences related to the place of alcohol in our society, each adolescent is also making decisions about drinking within a particular social setting. Of particular importance with regard to social influences are adolescents’ peers and friendship networks and their changing relationships with their parents. The effect of parents’ and peers’ alcohol consumption on adolescents’ drinking patterns is both direct, through observation and modeling, and indirect, through its influence on alcohol-related expectancies and attitudes.” (1, p.83).

Others focus on influences such alcohol availability and marketing and their impact on shaping drinking behavior and outcomes:

“Longitudinal studies consistently suggest that exposure to media and commercial communications on alcohol is associated with the likelihood that adolescents will start to drink alcohol, and with increased drinking amongst base-line drinkers. Based on the strength of this association, the

consistency of findings across numerous observational studies, temporality of exposure and drinking behaviours observed, dose-response relationships, as well as the theoretical plausibility regarding the impact of media exposure and commercial communications, we conclude that alcohol advertising and promotion increase the likelihood that adolescents will start to use alcohol, and to drink more if they are already using alcohol.” (2, p. 229)

This debate also extends to identifying the most appropriate and effective approaches to prevention and interventions, whether through education and social interventions or restrictions on access and exposure to alcohol.

What Is the Evidence?

The factors involved in shaping decisions about drinking, patterns of consumption, and the likelihood of beneficial or harmful outcomes can be grouped into four broad categories:

- genetic predisposition;
- individual characteristics;
- social and economic factors;
- environmental determinants.

There is considerable interaction among these factors, which modifies their relative impact and influences outcomes (see Figure 1).

Genetic predisposition

Genetic predisposition helps shape both drinking patterns and outcomes.

Genetics are involved in:

- alcohol metabolism (3-7);
- alcohol dependence (8-10) variation in sensitivity and physiological responses to drinking (4, 5, 11).

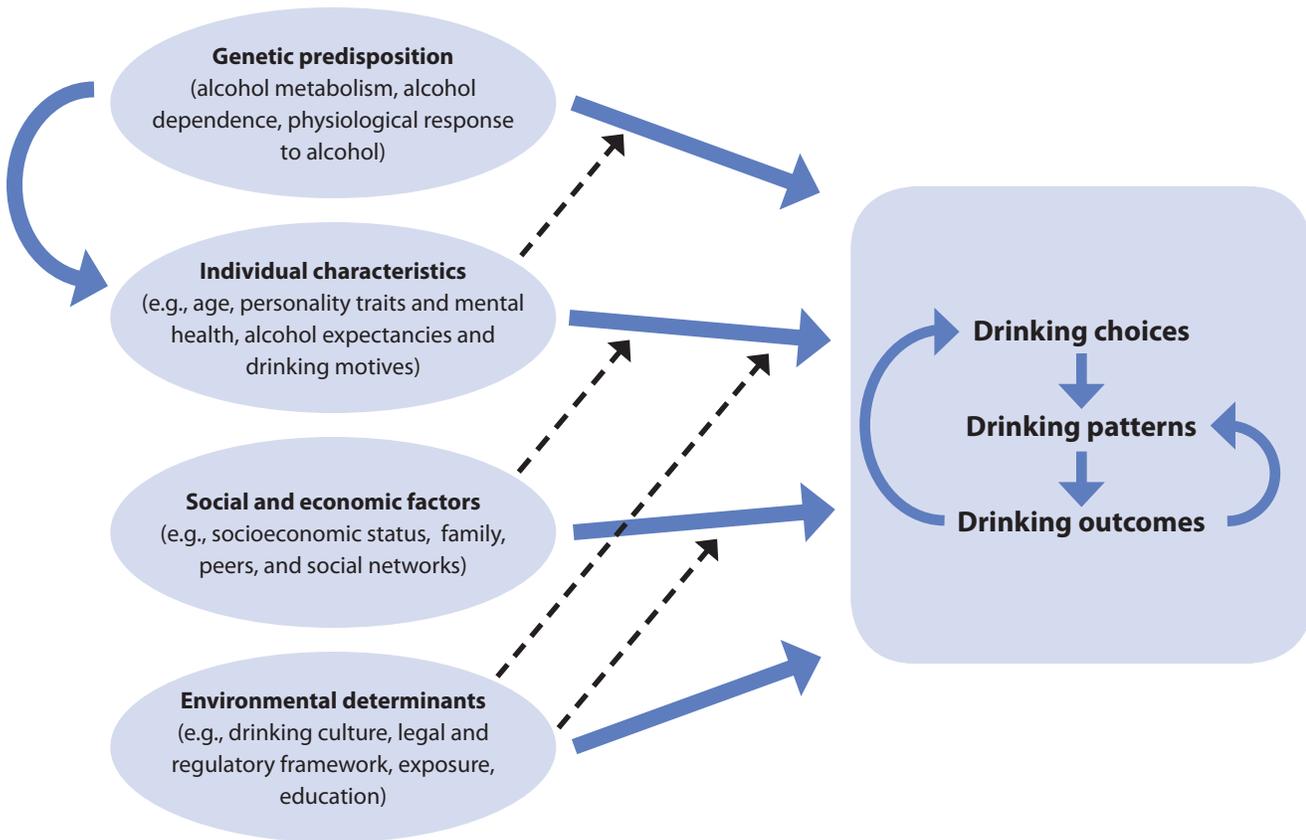
Evidence from adoption studies underscores the heritability of traits:

- For example, in a study of adopted children, 18.27% of those whose biological parents were alcohol-dependent also developed alcohol problems, compared to 6% of those whose parents were not alcohol-dependent (12).

Genetics also play a determining role for other characteristics that may be linked to particular drinking patterns, including personality traits and mental health issues (11, 13).

(Reviewed in ICAP Health Briefing: [Drinking Patterns and Genetics](#).)

Figure 1. Determinants of Drinking



Interaction between genetics and other factors—particularly social and economic variables such as poverty, malnutrition, health status, and drinking culture—influences the development of a person’s so-called drinking career and the likelihood of positive or negative outcomes.

The lifetime risk of alcohol dependence is thought to involve environmental and genetic factors equally, with significant interaction between the two (15, 16).

Individual characteristics

Various individual characteristics of those who consume alcohol, including age, physical and mental health status, stress, and beliefs and expectancies about alcohol, also affect the development of drinking patterns.

Age

An individual’s age contributes to shaping drinking patterns, likely outcomes, and the degree of risk for harm.

Evidence shows that younger people are more likely to drink heavily than other age groups and may engage in experimentation and extreme drinking behaviors.

They are also at increased risk for adverse health outcomes, particularly accidents and injuries, due to their relative inexperience with alcohol, coupled with heightened physiological sensitivity (17).

The impact of the age at which drinking is initiated—sometimes referred to as the “age of onset”—on subsequent drinking behavior and outcomes has received much attention.

This refers to the age at which drinking begins, not simply when alcohol is first tasted or sipped.

Early drinking behavior can, in some cases, predict later drinking patterns.

- Some research suggests that those who begin drinking at a young age (identified in some studies as before 13 years of age) are at increased risk for alcohol dependence and other harmful drinking behaviors later in life (18, 19).

However, other studies contradict this finding, arguing for a more complex relationship (20).

- The pattern of early drinking behavior, not simply the age when drinking begins, is likely to be predictive of alcohol consumption later in life (21).
- Early drinking does not necessarily correlate with drinking problems in adulthood (22).
- Additional research has shown that age of onset does not appear to affect frequency of drinking in adolescence (23), suggesting that the relationship between age of onset and drinking behavior is complicated and mediated by other influences.
- Finally, there is evidence that early drinking may be more likely to occur among young people already at risk, and may be part of a range of related deviant behaviors (24–26).

The impact of the age when drinking commences is modulated by the setting in which a young person first begins to drink alcohol.

Most young people are introduced to alcohol by their parents and family (27–29).

- Those who begin drinking within the context of family are at significantly lower risk for developing alcohol-related problems than those who begin drinking away from family (30).
- The significance of the age of onset is complicated by other factors, including genetic predisposition or cultural characteristics (31), such as the age at which drinking is deemed appropriate and acceptable.

Personality traits and mental health

Personality traits are linked to the development of drinking patterns and influence drinking behavior.

In both young people and adults, a tendency toward risk-taking, impulsivity, and sensation-seeking is associated with frequent and heavy drinking (32–34).

- Alcohol dependence has been linked to behavioral disinhibition, also referred to as “under-control” (35, 36), conduct disorder, aggression, and depression (32).
- Problematic personality disorders, such as antisocial behavior (37), have been correlated with alcohol dependence.

These relationships between personality and drinking patterns are consistent across cultural groups and ages (38, 39).

There is a high correlation between problem drinking and dependence, on the one hand, and mental health status and certain psychiatric disorders, on the other (40–43).

- According to some estimates, comorbidity, the co-occurrence of alcohol abuse and mental health problems, may be as high as 50% for these problems (44).
- Among young people, it is estimated that approximately 60% of individuals with substance abuse problems also present with psychiatric conditions (45), notably anxiety, depression, and low self-esteem (32).
- The evidence points to a genetic linkage between certain psychiatric disorders and susceptibility to alcohol and alcohol dependence (11, 13).

Research suggests that heavier drinking patterns are a prevalent coping strategy among individuals with personality traits that include anxiety and predisposition to stress (46).

Alcohol expectancies and drinking motives

Expectancies and attitudes around drinking are important individual-level factors that influence choices about alcohol, patterns, and outcomes.

Alcohol expectancies are the beliefs individuals hold about the likely positive or negative outcomes that will result from their drinking, and are closely linked with behavior (47).

- Positive expectancies about alcohol are usually positively linked with alcohol consumption (48), while negative expectancies often lead to reduction or cessation in drinking (49).
- Expectancies can influence the age at which drinking begins, as well as frequency and quantity of drinking (50).

Motives for drinking are correlated with expectancies and change with age.

They generally fall into four major categories (49):

- social (e.g., drinking to celebrate and engage in social interactions);
- enhancement (e.g., drinking to feel a certain way);
- coping (e.g., drinking to cheer up or relieve stress);
- conformity (e.g., drinking because others do).

Coping motives are usually associated with problematic drinking patterns, while social and conformity motives are normally linked to moderate drinking (51, 52).

- According to research, social motives are the primary reasons given for drinking by most young adults and adults, but are less prevalent in adolescents (53).

As drinkers get older and their motives for drinking change, the frequency of consumption and number of drinks per session tend to decrease (53).

Social and economic factors

Socioeconomic status

Drinking patterns and outcomes of drinking are correlated with an individual's socioeconomic status, including employment and income level.

Studies suggest a positive relationship between being a current drinker and an individual's education level and income.

- Moderate drinkers generally enjoy higher socioeconomic status than abstainers and heavy drinkers, and suffer fewer alcohol-related problems (54, 55).
- Some research has found a U-shaped relationship between average daily alcohol consumption and income (56).
- For adolescents, however, this relationship does not hold, and there is no correlation between socioeconomic status and drinking (57). Other determinants are likely to be more important for this age group, including peer and family relationships.

Social marginalization and economic deprivation have been associated with high prevalence of alcohol use disorders.

Among the indigent and homeless, higher rates of alcohol abuse have been reported than among the general population (58, 59), although there is variation across countries.

- Studies of homeless populations in several countries (Australia, France, Germany, Greece, the Netherlands, the United Kingdom, and the United States) reveal rates of alcohol dependence as high as 68.1% (59).
- Research indicates that over 70% of Brazilian street children drink heavily (60).
- A study of "lifetime alcohol dependence" among the homeless in urban areas showed the following rates (61):
 - Los Angeles, USA – 62.9%
 - Melbourne, Australia – 46%
 - Munich, Germany – 72.7%
 - Paris, France – 24.9%
- Variation in the rates reported may be due to differences in demographics of the homeless in different countries, disparities in access to healthcare and treatment (particularly for mental health issues), and accuracy of sampling.

Indigenous groups are often among the socially excluded segments of the population and show higher rates of problem drinking than the general population.

- This holds true for Native Americans in the United States (62) and Australian Aboriginals (63); a similar correlation has been reported for indigenous groups in India, for example (64).

Poverty and social exclusion are also strongly correlated with negative outcomes of drinking.

- It is estimated that lower income countries bear a disproportionate disease burden attributed to alcohol (65, 66).
- The confluence of numerous factors such as poor access to healthcare, malnutrition, and overall health status among poorer populations likely plays a significant role in determining this burden.

Family, peers, and social networks

The family environment, peers, and social support networks all influence the development of an individual's drinking patterns over time, the so-called drinking trajectory.

Family influence persists into adulthood, although it may be strongest at earlier ages (67, 68, 115, 116). The family can be a protective factor against problematic drinking behaviors.

- Family structure (such as the presence and involvement of parents) during childhood or adolescence affects drinking by youth (69); these influences are maintained into adulthood (70).
- Those with stronger family bonds are less likely to be influenced by peers and are better able to avoid risky drinking (71–73).
- Greater involvement in family activities, rather than peer activities, is also often a protective factor (74).
- Stability in partner relationships has been positively associated with moderate drinking, while disruptions in relationships are more likely associated with harmful drinking patterns (75, 76).
- Overall consumption generally wanes as individuals enter adulthood and take on responsibilities often deemed incompatible with heavy drinking, including marriage and parenting (77–80).

Family influences can also represent risk factors for harmful drinking patterns.

- Living in a dysfunctional family has been associated with increased alcohol use among young people (81, 117).
- Lack of parental warmth and perceived parental rejection are both associated with alcohol problems and heavier alcohol consumption (82, 83).

- Among young people, a lack of family support and lack of parental supervision and control have been correlated with heavier drinking (27).

Family influences are involved in shaping drinking expectancies and norms (84).

The drinking behavior of family members often serves as a model for young people.

- Parental drinking may be predictive of young people's consumption in adulthood (70).
- The drinking behavior of siblings, particularly those who are older and of the same gender, has a strong influence on drinking patterns in adolescents, perhaps even stronger than that of parents (85).
- However, for children of alcohol-dependent parents, genetic predisposition seems to play a more significant role in the development of problems than does parental drinking behavior (86).

Peer interactions and influences are another important determinant of drinking behavior, particularly among young people.

- Males are found to be more heavily influenced by peers than females, though this may vary by age (87).
- Those whose peers drink heavily tend to be heavier drinkers themselves, a relationship that persists into adulthood (88, 117).
- There is some evidence that peer influences may be more important in some cultures than in others (89).

The interaction between an individual's drinking behavior and peer drinking behavior is bidirectional: Individuals are affected by peer behavior, but also affect their peers (90).

Young people' perceptions of how their parents and friends drink are closely tied to their own drinking (91).

- Perceived peer drinking is a primary predictor of adolescent alcohol consumption (90, 92).
- Adolescents tend to overestimate drinking levels among their peers (93).
- Some research suggests that, among young people, heavy drinkers are rated positively by peers on measures of sociability, self-confidence, and aggression (94).

The presence of a strong social network of family and friends provides a support structure that offers protection against alcohol problems.

Those with strong networks and social support are less likely to develop alcohol problems than those who lack such support (95).

A strong support network is also an important factor in the successful treatment of individuals diagnosed with alcohol use disorders (96).

Involvement in certain social activities and belonging to social groups can influence drinking patterns, particularly among young people.

- Religious involvement has been described as a significant protective factor against problem drinking even where there is no proscription against alcohol (97–99).
- Meanwhile, research from the United States shows that college and university students who live in fraternities and sororities are more likely than their peers to engage in risky alcohol consumption (100–102).

Environmental determinants

The broader environment within which drinking develops, including general drinking culture, prevalent norms and practices, and exposure to alcohol, affects how drinking patterns form and progress.

Social norms or practices within different cultures shape common perceptions and behaviors around drinking.

Cultures differ in the degree they accept drinking and tolerate particular behaviors.

- Typical "wet" (e.g., Mediterranean) cultures are characterized by greater tolerance and integration of drinking, particularly on social occasions and with meals, and by moderate drinking patterns and stigmatization of chronic heavy drinking and drunkenness (103, 104).
- "Dry" drinking cultures, on the other hand (e.g., the Nordic European countries), are traditionally less permissive of regular drinking but characterized by episodes of heavy consumption and tolerance for drunken behavior (105).
- Drinking settings and venues vary across cultures, also affecting common drinking patterns and practices (106).
- In a cross-cultural study of reasons for abstaining from drinking, "religion" and "upbringing" were among the most commonly cited (107).
- Prevailing cultural norms are reflected in regulatory measures, such as the appropriate age for setting legal drinking and purchase age limits or the degree to which to restrict the availability of alcohol.

Other cultural differences, like gender norms and roles, also have an impact on drinking behavior.

- In most cultures, men drink more than women (105).

- Certain drinking patterns, for example, heavy episodic drinking (“binge”/extreme drinking) tend to be more socially acceptable for men than women (108).
- Similarly, such cultural norms may result in different stigmatization and treatment of men and women with alcohol problems (109).
- Gender roles in a culture may mediate the effects of other factors on drinking behavior, such as education, employment, and familial influences (110).
- The importance of societal and cultural influences increases during late adolescence (118).

There is debate around the extent to which exposure to alcohol through commercial communications and its physical availability have an impact on drinking patterns and choices.

Studies on the effects of restrictions on alcohol availability have shown inconsistent effects on alcohol sales and consumption.

(Reviewed in ICAP Issues Briefing: Physical Availability of Beverage Alcohol – Monopolies, Licensing Hours, and Retail Outlets.)

Among young people, greater perceived availability of alcohol may be linked to stronger perceptions of social approval of drinking; these perceptions, in turn, are correlated with higher alcohol consumption (111).

With regard to commercial communications, research shows that advertising only has, at most, a modest effect on consumption; this effect is mediated by drinking motives and expectancies (112–114, 116).

(Reviewed in ICAP Issues Briefing: Alcohol Marketing and Young People.)

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