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INTERACTIONS AMONG DRUGS, ALCOHOL, AND VIOLENCE

by Jeffrey Fagan

Prologue: Recent studies have determined that more than half of all homicides in this country involve drugs or alcohol; furthermore, alcohol and drugs are implicated in an even larger proportion of nonfatal violent acts. Given the public health community's increased interest in violence and its toll on society, the linkage between substances and violence seems a logical next step. Indeed, as Jeffrey Fagan writes in this paper, hundreds of complex interactions exist among these phenomena. While experts agree that drugs and alcohol often play a role in violent activities, their precise role is less clear. Here Fagan discusses the limitations and dilemmas of current research into interactions among drugs, alcohol, and violence, based on an expanding literature in this field. Several issues in law and social science "complicate efforts to explain the relationships between substance use and interpersonal violence," Fagan writes. These issues include the inability to establish firm causation in substance-related violent acts; the legal status of drugs and complications involving trafficking and law enforcement; difficulties in separating environments or individual traits of substance users from their violent behavior; disagreement on how to measure the prevalence and precise correlates of violence and substance abuse; and problems constructing research paradigms. "The weight of evidence suggests that substance use provides a provocative context for violence," Fagan writes, "but there is limited evidence that alcohol or drugs directly cause violence." Fagan is an associate professor in the School of Criminal Justice, S.I, Newhouse Center for Law and Justice, at Rutgers University in Newark, New Jersey. He received his doctorate in policy science from the Department of Civil Engineering, State University of New York (SUNY) at Buffalo and holds a master's degree in human factors engineering also from SUNY Buffalo.
Abstract: This paper identifies five research dilemmas in associating violence with substance abuse: (1) difficulty in establishing causal linkages; (2) problems associated with the legal status of substances; (3) ecological and individualistic fallacies; (4) measurement issues and problems with data sources; and (5) research design problems. The author then discusses social context and the role of rational choice as frameworks to explain the interaction among drugs, alcohol, and violence.

The relationship between drugs, alcohol, and violence has been a recurring theme for social scientists, policymakers, and informed citizens. Recent studies provide a strong empirical basis for their concerns. The associations between substance use and violence are strong, they have endured over many years, and they are consistent for many different types of violent acts. Alcohol and drug use are associated with more than half of all homicides and a disproportionate share of other violent events including sexual assaults, marital aggression, and serious assaults among strangers. In many violent incidents both victims and offenders were drinking prior to the violence. Among heroin users, rates of assault and robbery increase sharply during periods of their addiction.\(^1\) In U.S. cities both homicide rates and the proportion of homicides involving drugs have risen sharply since the appearance of crack cocaine in 1985.\(^2\) These increases are a consequence of the violence associated with cocaine and crack distribution as well as of the chaotic circumstances that often surround their use.

Efforts to focus public health resources and research on alcohol- and drug-related violence have grown over the past decade, with good reason. The comorbidity of substance abuse and violence doubles the risk of public health problems from any one of them individually. Alcohol and drug abuse have serious health consequences, including chronic and acute illness, disability, and elevated mortality rates. These problems are compounded since substance use often is accompanied by either accidental or intentional interpersonal injuries. Thus, epidemiological study and surveillance of violence has focused not only on its locations but on its behavioral and social correlates such as substance use.

The public health model emphasizes research to identify (1) the locations and populations at highest risk for health problems, and (2) the application of interventions to address the causal linkages among the behaviors. The success of public health efforts depends on three factors. First, the epidemiological evidence should point to specific patterns in time and place on which to focus interventions. Second, empirical research should explain the causal linkages between violence and substances and translate them into principles for intervention. Third, effective and feasible interventions should either address the antecedents of the problem behavior and indirectly reduce their incidence, or directly reduce the behavior.

Unfortunately, current epidemiological and theoretical knowledge may
not meet these conditions for defining effective public health strategies. There is a long-standing tradition of epidemiological studies on alcohol and drug abuse, focusing on groups at risk and trends over time. There also is a rich tradition of epidemiological or area studies in criminology that have identified the social and spatial correlates of interpersonal violence. Rates of comorbidity and patterns of correlates of the shared and separate behavior usually are computed in each research tradition. Both literatures suggest that while drinking, illicit drug use, and violence are related in terms of both persons and places, the links are complex and difficult to disentangle.

Most people agree that alcohol and drugs are implicated in violence, but most also are vague or uncertain about their precise role. There are hundreds of empirical relationships between substances and violence. They show consistent evidence of comorbidity with other social, economic, and individual problems among victims and offenders, raising the likelihood of spurious and “third-factor” explanations. The weight of evidence suggests that substance use provides a provocative context for violence, but there is limited evidence that alcohol or drugs directly cause violence. Although alcohol and, to a lesser extent, illicit drugs are present in both offenders and victims in most violent events, most drug and alcohol use occurs among persons who are not violent. Accordingly, the search for effective public health policy for drug- or alcohol-related violence must unravel the complex causal relationships involving substances and behavior.

In this paper I examine the issues in law and social science that complicate efforts to explain the relationships between substance use and interpersonal violence. I do not review the literature on drugs, alcohol, and violence; that literature has been reviewed several times in recent years. Instead, I discuss the limitations and dilemmas of current research. Solving these dilemmas is necessary to develop empirical knowledge to inform public health policy. I conclude with a discussion of unifying explanatory frameworks to advance empirical knowledge and inform the design of public health interventions.

**Five Research Dilemmas**

**Causal linkages.** There are several causal linkages among drugs, alcohol, and interpersonal violence. Paul Goldstein’s review of drug/violence connections identified three types of relationships between drugs and violence. (1) Economic compulsive violence describes intentional violence with instrumental goals of obtaining money to finance drug use. (2) Pharmacological violence results when the use of substances results in changes or impairments in cognitive functions, intensified emotional states, or disruptions of hormonal or physiological functions that motivate or restrain
violence. (3) Systemic violence entails violence resulting from trafficking of illegal drugs. In the past decade elaborations of the Goldstein framework suggested that persons might engage in any of these varieties of drug- or alcohol-related violence at various points as they use alcohol and drugs and that specific incidents may involve more than one explanation. Consider, for example, the drug user who sells drugs to support his or her own drug use but engages in violence to maximize both profits and quantities of drugs.

Several reviewers have concluded that alcohol is the substance most likely to lead to psychopharmacological violence. Experimental studies show that alcohol can increase the amount of pain one person inflicts on another. But there is some evidence that cocaine, barbiturates, amphetamines, phencyclidine (PCP), and steroids also have psychopharmacological properties that can motivate violence. The route of ingestion also may influence both the onset and the likelihood of violence. For example, cocaine smoking leads to suppression of neurotransmitter activity, in turn forming acute depression, paranoia, and irritability. These emotional states often are antecedents of violence. But these symptoms are less acute and take longer to develop when cocaine is snorted in its powder form. Systemic violence associated with trafficking in illicit substances directly reflects their legal status, and the legal regulation of any popular substance arguably will give rise to an illicit market. These markets often are regulated through illegal means, with violence a central tactic.

Goldstein’s “tripartite” framework is useful for understanding patterns of violence and comorbidity of violence and substance use or trafficking. But the evidence of causal relationships, and explication of precise causal mechanisms, still is uncertain. The presence of alcohol or drugs in violent events does not necessarily imply that these substances affected the behavior of any of the participants. To assign a causal role to drugs or alcohol requires that we be certain that the behavior would not have occurred if the user had been sober. That is, comorbidity and causation are often confounded. Much alcohol and drug use is overlapping, for example, with mental health problems, a variety of deviant and illegal acts, and poor outcomes in marriage or employment. Nevertheless, we face the paradox that while there is weak evidence of direct effects of alcohol or drugs pharmacologically, there is a high proportion of violent events of all kinds where alcohol is present among assailant, victim, or both parties.

While drugs or alcohol may be a cause of, response to, or mediator of a variety of social behavior including interpersonal violence, even less is known about the contributions of substance use to victimization. Most research on the violence/substances connection has emphasized crime commission rather than victimization. Yet involvement with substances also increases vulnerabilities to violent victimization. Drug selling often in-
volves victimization from assaults and robberies, as well as from homicides.\textsuperscript{13} Victims of homicides and assaults often have been engaged in verbal conflicts that lead to physical violence. Marvin Wolfgang defined “victim-precipitated” homicide as homicides in which the victim was the initial aggressor and noted that these victims often have high blood-alcohol contents upon autopsy.\textsuperscript{14} Other researchers have found that alcohol use among rape victims at the time of the assault also is high, but so is alcohol use by assailants, and that alcohol use is more common among victims of stranger rape than among victims of acquaintance rape.\textsuperscript{15} While alcohol may be a circumstance in these events, it hardly qualifies as a cause. Alcohol may alter perceptions of social cues and comprehension of verbal communication, increasing the risk of misinterpretation. It also may impair victims’ judgments regarding the perceived versus actual threats in another person’s actions or the threats of a particular location.\textsuperscript{16}

The untangling of causal relations becomes even more complex when gender is taken into account. For example, James Collins and Pamela Messerschmidt conclude that female homicide victims are less likely than male homicide victims to have used alcohol prior to their deaths.\textsuperscript{17} Alcohol use (but not drug use) by males is a significant risk factor in husband-to-wife violence, but women’s alcohol use is not a significant risk factor in wife-to-husband violence. However, alcohol or drug use by the victim is not a risk factor in spouse-assault victimization of either women or men.\textsuperscript{18} Drug selling carries high risks of violence for both men and women, but drug use is more likely to result in victimization for males.\textsuperscript{19} The low participation (commission) rates of women in robbery and other violent acts make it difficult to sort out gender differences.

Variability in the effects of substances themselves suggests that cultural, social, and personality factors also shape relationships between substances and violence. Violence is more likely to occur in specific settings and among specific persons within those settings. Some bars have more fights than others, some couples with comparable drinking patterns are more violent than others, and some persons have different emotional responses to intoxication. Gang members may use alcohol and PCP alternately to prepare for gang fights or to “lubricate” episodes of peaceful group social interaction. Folklore about substances also permits some people to engage in violence while avoiding blame. Heavy drinkers have often used a process of “deviance disavowal” to blame drugs or alcohol for violence.

These complexities suggest that interpersonal violence is “contextualized.” It occurs in situations characterized by the effects of the substances, the physical setting where they are used, the collective personalities of the people present, the social rules about violence in that setting and how they are enforced, and the cultural expectations that shape beliefs about vio-
viance. Substance use is a critical part of this ecological dynamic. Assigning a causal role to substances requires that we know whether violence would occur in these settings and among these individuals if drugs or alcohol were not present. Perhaps different aggregations of individuals would choose to be in those contexts if substances were not part of the social interactions, or perhaps the behavioral outcomes would differ if the patterns of intoxication were changed. The empirical evidence suggests that illicit drugs and alcohol play important roles in this ecology, but their importance rests within a broader range of individual, societal, and cultural factors.

**Artifacts of legal status.** The most consistent and predictable relationship between substances and violence is a result of trafficking illicit drugs. Drug markets generate violence between buyers and sellers under a variety of motives and circumstances: robbery of cash or drugs, disputes over quality or amount, gaining a competitive advantage for selling territory or market share, and violence as a management strategy to discipline subordinates. Violence within unstable drug-selling organizations gives new meaning to the concept of a “hostile takeover.” Because there is no recourse to legal mechanisms for settling such disputes, violence or the threat of violence is used to enforce the social rule of exchange in the illicit market.

Arguably, any legal regulation of intoxicants can lead to illicit trafficking and violence. Crime organizations flourished in the 1920s and 1930s during Prohibition, some new and some that expanded their business into the new markets created by the Eighteenth Amendment. Mark Haller reported that rival bootlegging gangs “publicly shot each other while the police and courts were unable or unwilling to intervene.” But this violence was highly localized, with some cities reporting declines in arrests for crimes against persons during the Prohibition era. Crime organizations flourished anew during the cocaine crises of the 1980s. Violence was widespread, and murder rates soared to record levels in many cities. But the creation of lucrative illicit drug markets provided arenas where people with high propensities toward violence were recruited or gravitated voluntarily.

Both the Prohibition era and recent cocaine crises shared common elements that provide a context for explaining the link between legal status of substances and violence. During Prohibition, bootleggers tended to recruit newcomers to organized crime: young males in their late teens or early twenties, often children of immigrants raised in slums. These risk factors also were present among the young males active in cocaine selling in the 1980s and 1990s. Young males raised in poor and socially unstable inner cities became part of a surplus labor force. This group was socially selected into an implicitly violent context that promised incomes far beyond what they might expect in a declining industrial economy. Accordingly, violence in drug selling reflects the legal status of the drug but also its interac-
tion with the economic circumstances under which drug markets flourish.

The legal status of substances poses further problems in unraveling the complex relationships between substances and violence. Legal status possibly truncates research in three ways: limiting the options to experiment in the laboratory with banned substances; contributing to a confounding and social selection of the settings where some drugs are used; and introducing variables of legal and social controls in the natural course of drug use that may interact with effects specific to the drugs. The simple fact of the legal access to alcohol and the illicit status of other drugs makes it difficult to establish the types of conditions necessary to isolate the effects of specific substances on specific individuals.

Ecological and individualistic fallacies. Implicit in the dilemma of multiple causality is the problem of explanatory fallacies. Most drinking events or drug-use occasions do not result in violence; however, alcohol is present in more than 50 percent of all homicides and serious assaults. While many would consider the presence of alcohol or drugs in a violent event presumptive of a causal relationship, the low base rates of violence compared with drinking or drug use challenge us in two ways to understand their relationship.

First, simply because alcohol or drugs are present in many violent events, we cannot assume that the presence of substances will consistently and inevitably lead to violence. Likewise, it would be misleading to assume that weak social structure—a strong correlate of violence—has nonzero effects that are consistent across individuals. We would be guilty of an ecological fallacy to assume that substances, or perhaps poverty, have uniform effects across individuals in the commission of violent acts. Such fallacies entail a form of psychopharmacological or economic determinism that suggests that violence is inevitable when substances are consumed or when people are poor. For example, drug-use rates are higher in neighborhoods with high violence rates, but there still are differences within neighborhoods that complicate structural or ecological explanations. Similarly, differences among neighborhoods persist even after other structural variables are controlled for; these differences compromise the predictive validity of ecological factors. Moreover, individual differences provide reliable evidence that the effects of substances or poverty are not uniform and that they are mediated at several “levels of explanation:” social context, group dynamics, and cultural norms.

However, denying the contributions of ecological influences has led to assumptions that all explanations for violence may rest with individual differences. This poses the second challenge: the assumption that all explanations for the connection between substances and violence lie within individuals. This “individualistic fallacy” suggests that the connection be-
between intoxication and physical aggression is the result of personality factors, endocrinological responses, neuroanatomy, or other factors unique to individuals. But the limitations of individual-level explanations are well understood. Within-group differences in individuals argue against the exclusion of situational, structural, or cultural influences. For example, the literature on domestic violence, violence among youth gangs, barroom studies, and other specific contexts with high cooccurrence of substance use and violence raise doubts about the direct effects of substances as contributing factors in interpersonal violence.

If both ecological and individual influences contribute to the relationship between substances and violence, a conceptual framework is needed that specifies intervening constructs and mechanisms to reconcile these perspectives. Hierarchical models are necessary to sort out the inputs of personality and the effects of specific substances on the one hand, and the moderating influences of setting, social controls, and cultural norms or beliefs on the other. But these models also must recognize dynamic non-recursive mechanisms, where the decisions to use substances in specific settings also are influenced through a feedback process to shape decisions on how to behave once substances are consumed. Thus, changes in cognition, expectations on how to behave while intoxicated, and intensified emotional states affect both the amounts of substances used and their behavioral sequelae. The challenge for public health lies in specifying a framework that includes both hierarchical and dynamic effects.

Measurement issues. Decisions about measurement of violence and substance use introduce further complexity. Empirical studies disagree about the precise correlates of violence or substance use, and some correlates will vary in their association depending on how violence or substance use are measured and on the source of the data. For example, some studies claim that social class is closely related to violent behavior, while others find no relationship at all. Alcohol is highly correlated with the frequency of domestic violence but not with injuries incurred by the victim. Many studies find stronger relationships between social class and domestic violence or cocaine use when official records are used but a far weaker association when self-reports are used to measure violence. It is unknown whether these are true differences or whether they are artifacts of various measurement and research design strategies. These problems are compounded by measurement errors inherent in the data sources themselves.

There are three main difficulties in measuring violence and substance use. First, the correlates of violence or substance use vary depending on whether they measure the behavior or the consequences. The correlates of the frequency of domestic violence vary from those of the seriousness or frequency of injury. Measures of drug or alcohol use often reflect the
number of use days but rarely the amounts consumed. Measures of the effects of substances in terms of physical impairment or changes in cognitive functions or emotional states are rarely used. Factors such as body weight, metabolic rate, and several neuroendocrinological and neuroanatomical processes produce broad individual differences in the effects of substances. Yet the effects of substances that are linked to violent behavior, and the frequency of consumption, provide only an indirect measure of what we assume to be the intervening constructs or processes.

Second, operational definitions also influence empirical knowledge. Studies using different definitions are likely to reach different conclusions about the amount and correlates of violence. For example, studies that include threats as part of their definitions of domestic violence report higher rates of violence but generally weaker social or demographic correlates. One study compared the correlates of marital violence using measures of injury, frequency of violence, and severity of violence and reported different correlations for each measure. When marital rape was added to the definition and measure of violence, the correlates became stronger. Similar diversity occurs in studies on substance use. Research using clinical or arbitrary thresholds of drug "abuse" reach different conclusions than studies measuring only the frequency or amounts consumed. The relationship of substances and violence varies according to when consumption is categorized by distilled spirits (liquor) or by fermented drinks (wine or beer). The strength of the relationship between illicit drugs and violence depends on whether the route of ingestion is included in the definition.

Third, data sources have intrinsic measurement errors. Drug tests and breathalizers, for example, are useful only to detect substances before they fully metabolize. The accuracy of self-reports varies across population subgroups, with underreporting a concern among populations at highest risk of violence or serious drug use. Official records are heavily influenced by organizational variables. Measures of both substance use and violence also yield different results depending on how they are aggregated. Aspects of study design also produce discrepancies in findings about violence. Studies based on individuals yield different results from studies based on comparisons of aggregate populations. Results based on victim reports vary from results based on offender reports.

Standardization in measurement, or multiple measurement within studies, will settle many of these issues. Beyond this, the complex interactions of people, places, substances, and aggression require direct measures of violent transactions. Several reviews have concluded that what is needed in measurement are efforts to unravel what actually happens in violent events where substances are consumed. Such measures would include clarification of violence according to its motives or intentions, the sequences of
events and interactions leading to violence, and data on the events that follow violent episodes. Apportioning roles to actors and to substances in violent events also requires methodological attention. To what extent is violence a dyadic interchange, and how can we apportion roles in these events to individuals and substances? Advances also will require careful measurement of the putative linkages between substance use and violence: emotions, neurological functions, psychopharmacological effects, cognition, perception, and interpretation of social cues.

**Paradigms.** The models for research on substances and violence further complicate efforts to amass a reliable knowledge base. For example, two widely different research paradigms characterize research on the effects of alcohol and violence. Laboratory experiments, primarily with samples of college students, usually involve measurement of the effects of low doses of alcohol on nonlethal aggression toward an imaginary opponent. Much of this research involves behavior that is legally permissible, or at least culturally permissible, when one is drunk, but it precludes the influences of social contexts and cultural norms. Generalization to populations beyond college students also is risky, given the multiple risk factors of social class and social area on base rates of violence. A second paradigm involves research on bars. Here, experimental conditions are sacrificed to study the effects of a variety of social controls and contexts on the rates of aggression among bar patrons. But bars involve self-selected aggregations of people who again may reflect concentrations of risk factors from variables outside the bar setting. There are obvious difficulties in comparing and aggregating knowledge from such varied problems.

Most experimental research on drugs and violence is limited to animal studies. The legal status of drugs complicates efforts to study the effects of cocaine or opiates on humans without incorporating the social contexts that contribute to variations in violence within and among groups. Instead, illicit substances often are studied in the context of “street crimes” or predatory violence, usually with either institutionalized samples or people in natural settings. Because violence and illicit drug use are not well distributed across socioeconomic groups, selection biases create a variety of sample artifacts.

While general population studies are helpful to identify subgroups, base rate problems limit the usefulness of general population studies, especially when we seek to understand the relationship between substances and violence. General population studies also often miss the subgroups in which violence rates are highest and in which the joint patterns of substance use and violence are concentrated: institutionalized populations, the homeless, and otherwise transient populations. Precisely because we are interested in the extreme cases, general population studies are likely to yield small
numbers of cases who display the behavioral patterns with which we are concerned.

Control groups are a critical problem. Constructing control groups for behavior that is intentional is nearly impossible. Control groups must be based on the logic of “all other things being equal,” but it is questionable whether these criteria can be established for cases of serious violence or serious addiction. Simply selecting the person who lives next door does not control for the dynamics inherent in intentional violence, or for the complex natural history over the life course in patterns of substance use.

Paradigms for the study of social contexts obviously are important but are not amenable to experimental manipulation. For example, social control comprises a range of constructs, from internalized restraints (for example, the social “costs” of violence, or one’s stakes in conforming to a social order), to the informal social rules and regulatory processes that characterize groups and situations, to the formal rules attached to specific locations. Violence itself has been defined as a process of social control to settle grievances or maintain power. relationships. The social cohesion among individuals in a setting influences the strength of these regulatory processes. Thus, aggregation processes within specific contexts raise the risk of confounding causation and correlation.

These dilemmas pose challenges in developing public health policy to prevent drug- and alcohol-related violence. James Mercy and colleagues present the core elements of a public health approach elsewhere in this volume, beginning with an analysis of risk markers and determination of the causes of injuries. But the five dilemmas described here complicate our understanding of the extent to which substance use is a risk factor and what its precise causal role may be in interpersonal violence. Advances in definition and measurement are basic steps to make possible the consolidation of empirical knowledge. Beyond methodological solutions, however, advances also are needed in explanatory frameworks to advance public health efforts. Some drug- or alcohol-related injuries due to interpersonal violence are preventable. Yet the exact proportion remains a “dark figure” owing to the complex relationships between substances and violence and to the difficulties of accurate prediction of events and isolation of causal relations.

**Conceptual Frameworks For Prevention And Intervention**

Current knowledge suggests that surveillance, analysis, and interventions be conceptualized in new frameworks that address these dilemmas in research and explanation. Two such explanatory frameworks are described below.

**The influence of social contexts.** Variations in alcohol- and drug-
related violence across individuals and locations suggest that social contexts moderate intoxication/violence relationships. Settings and social contexts influence the choice of substance and convey the rules and norms proscribing behavior, the cognitive interpretation of the situation, and, accordingly, the probability of aggression in that situation. Thus, social control of drinking or drug-use situations reflects the situational ecology of the setting: the anonymity of people within a setting, their age/gender/race composition, and the salience of the rules of the setting itself. Analysis of contexts requires attention to both the motivations and the restraints within the setting. Composition effects from the people who populate locations, and the strength of ties among them, also are factors in conceptualizing and measuring the effects of contexts.

Research on substances and aggression must take context into account. Contexts have effects not only on the social controls that limit aggression but also on the arousal processes that motivate it. Social control involves the myriad rules that are developed and enforced by people within the setting where substances are consumed. Informal rules of the setting are balanced with formal legal controls to regulate individual behavior. Reactions within these settings to drinker/situation interactions produce social reactions that are an important dimension of social control. Accordingly, advances in the measurement of context and its effects on violence rates will provide a conceptual basis for interventions in patterns of drug and alcohol consumption.

Analysis of variations in violence rates in specific substance-use locations would focus attention on locations and contexts with the highest risk. But the influence of social contexts on the occurrence of alcohol- or drug-related violence also suggests a paradigm stressing events where violence occurs. This analytic focus shifts attention from persons to events and emphasizes location as the critical intervening construct in the occurrence of violence. Analyses of events would focus on the sequences of behavioral interactions leading up to and following the violence, including person/place interactions, person/substance interactions, and person/person interactions. The amounts of alcohol or drugs consumed and the characteristics of the user also are relevant variables in understanding the unfolding of events.

**Human guidedness and rational choices.** One of the problems in understanding how substances influence violence has been a series of determinist assumptions about the effects of intoxication on individuals. But we know that alcohol or drug use may both follow and precede violence. Even when an antecedent, substances may be used as blameworthy excuses for violence that remove responsibility from the individual. We also know that some persons consume alcohol or drugs to achieve emo-
tional states that facilitate violence or other desired affects.\textsuperscript{42} Accordingly, further explanation is necessary about how persons interact with substances to shape the behavioral outcomes of intoxication events.

One view involves human guidedness to explain the occurrence of violence during drinking or drug use. Kai Pernanen suggests that some drinking behavior is socially functional and is instrumental in achieving socially permitted or desired behavior.\textsuperscript{43} This framework deemphasizes the specific effects of alcohol or drugs and focuses on interactions between persons in particular settings leading to expected or desired behavioral outcomes. The phenomenal effects of alcohol itself are secondary for this interpretation, almost to the “vanishing point.”\textsuperscript{44}

Alcohol and drugs serve purposes that range across persons and cultures. Pernanen developed this framework for cognition and behavior in studies of the consequences of drinking among Scandinavians. His framework suggests that individuals will adopt levels of violence to the specific situation-to the context (rules), the individual actors (targets, handlers), the types of acts, and the rules of the situation. His is explicitly a rational-choice model, focusing on guided versus indiscriminate (angry) aggression. This feature of intentionality is critical for sorting out the individual and situational factors that are part of a violent intoxication event. It suggests a research model of intensive debriefing of individuals in violent events and a detailed understanding of their victim/offender relationships.

Pernanen’s work provides an illustration of the types of intervening constructs that are necessary for explaining complex relations between substances and interpersonal violence. Human guidedness is an example of the active management of situations and emotions that may underlie violence and the important role of substances in achieving emotional states necessary for the “successful” completion of violent events. Further research on other constructs that mediate between situations and individual propensities are necessary to develop interventions and prevention tactics within a public health model.
NOTES

7. To simplify the discussion further, I do not discuss the violence that results from illicit trafficking of drugs or alcohol. The discussion focuses on violence that occurs in the natural course of using substances, including antecedents of drinking-violence episodes, and the rational choices of those who use drugs or alcohol.
25. Fagan and Chin, “Violence as Regulation and Social Control in the Distribution of Crack.”
33. Fagan and Browne, “Violence between Spouses and Intimates.”
35. Fagan and Browne, “Violence between Spouses and Intimates.”
38. Taylor, “Alcohol and Human Physical Aggression.”
40. Roizen, “Alcohol and Violence.”
42. Fagan, “Intoxication and Aggression.”
43. Pemanen, Alcohol in Human Violence, 18.
44. Ibid., 211.