Alcohol and Violence: Connections, Evidence and Possibilities for Prevention†

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Abstract—This article reviews a number of theoretical and substantive arguments and models concerning the link between alcohol and violent crime which have appeared in the research literature in the past decade. These arguments and models form a firm foundation for the expectation that alcohol plays a causal role in violent crime, and that interventions designed to reduce or eliminate this link between alcohol and violence have the potential to become effective violence prevention policies. Four studies on the relationship between alcohol and violence are summarized, including one in which a natural alcohol policy experiment is evaluated. Taken together, these studies provide substantial empirical evidence that alcohol policy can be an effective crime prevention tool.

Keywords—alcohol, policy, prevention, violence

The prevention of violence and violent crime in the U.S. has been a focus of policy makers, law enforcement, and citizens and residents for much of the final third of the twentieth century and into the twenty-first century. Although during the late 1980s and 1990s the country as a whole experienced a significant drop in the rate of violence, there is little or no consensus on why this occurred (Blumstein & Wellman 2001; LaFree 2000; Hagan 1998). One inference derived from analyses of the crime drop is the notion that declining consumption of alcohol may have played a role in the decline in rates of violent crime (Parker, Plechner & Anderson-Facile 2000; Parker & Cartmill 1998). This article addresses the possibility by first summarizing a number of theoretical arguments and conceptual models that have been proposed to explain why such a causal link might exist between alcohol and violence. In addition, it summarizes four empirical studies which examine the relationship...
between alcohol and violence, including one natural experiment in which a reduction of alcohol availability occurred in a community in the middle of a longitudinal study of this relationship. The studies summarized show by implication and inference that alcohol policies might be effective in controlling violence; the results of the natural experiment show the empirical effect of changing alcohol policy on rates of violent crime. Finally, the article describes a number of ways that the findings of the research summarized here could be put into practical application in the policy arena to produce declining rates of violence. This is particularly important as the declines in rates of violence in the 1990s show signs of being over; recent data suggest that rates of violence are either bottoming out or in fact increasing once again, so that the utility of a policy tool for preventing or decreasing violence and crime should be at the forefront of current policy debate.

**WHY SHOULD ALCOHOL AND VIOLENCE BE RELATED?**

The link between alcohol and violence can first of all be seen as an aspect of the social context within which behavior occurs. Context here includes both other social actors (that is, people, with whom one interacts) and also characteristics of the physical space in which the social interaction takes place. The nature of the context has a fundamental impact on the nature of the behavior observed in that context, especially in the short run (that is, minutes, hours, and day-to-day time frames). An extreme example is the difference in social interaction and behavior between the context of a church basement and the context of a strip club; theoretically, violence is possible in both places. However, the probability that violence will occur in the strip club, based on prior experience, is overwhelmingly greater than that it will occur in the church basement. Why should this be the case? The nature of the context is radically different, and one of the most striking differences has to do with the availability and consumption of alcohol. This is not the only difference, but this difference plays a major role in understanding the differing rates of violence that occur in differing contexts (see Parker 1993 for further discussion of context and alcohol).

In the late 1980s, scholars began to notice significant differences in rates of violence within contexts that were correlated with alcohol availability and consumption. Using what is referred to as the “hot spots” approach, an examination of the physical locations of demand for police services showed that rates varied enormously from block to block within the same general neighborhoods, and that the highest rates of calls to the police for assistance/intervention were coming from areas with high concentrations of alcohol outlets, especially where consumption was occurring on site—bars, restaurants, areas around liquor stores and so on. For example, Sherman, Gartin and Buerger (1989) found that the “hottest” spot in their data from Minneapolis was an intersection with several bars, a liquor outlet, and a city park; police received 33 calls for service to that intersection during a 12-month period. Overall they found that four of the top six hot spots involved areas where alcohol sales and consumption were dominant aspects of the context of these places. In Cleveland, another large city in the Midwest, Roncek and Maier (1991) found that blocks with one or more bar or liquor store had significantly higher rates of violence even after controlling for socioeconomic and population compositional factors.

The hot spots literature clearly indicates that alcohol plays a role in the contextual differences that are related to violence. However, this still leaves the question of how and why people seek such contexts, and the role alcohol plays in the process of individuals moving through their daily lives and interacting with others. A theoretical model developed in the late 1970s by criminologists offers some insight, especially if we consider the role that alcohol plays in the lives of individuals. The routine activity (Cohen & Felson 1979) or “lifestyle” approaches (Hindelang, Gottfredson & Garofalo 1978) argue that crime and violence are normal occurrences, part and parcel of the ebb and flow of social life in modern societies. Derived in large part from the development of human ecological theory (see Hawley 1950), these approaches suggest that the daily routines that individuals engage in as a part of living their particular lifestyle both expose them to risk of violent victimization in some cases and in others protect them from such risk. The key to understanding the differing individual risk profiles has to do with how the daily activities of individuals place them in the same locations, at the “right” time, both with motivated potential offenders and without potential guardians. An extreme example to illustrate the argument would be a small, unarmed, relatively weak female walking alone in a neighborhood with lots of bars at 2:00 A.M. This potential victim is without potential guardians (no companions, male or female), few police are patrolling at 2:00 A.M., and although the streets are mostly empty, the bars contain a number of potential offenders who are likely to be disgorged as closing time approaches/occurs.

What role does alcohol play in routine activity or lifestyle approaches? Alcohol consumption is part of the daily or weekly routine of many individuals in our society, and although alcohol is consumed by many people in the relative safety of their own homes (placing them at higher risk for family or domestic violence; see Stets 1990), many others seek alcohol consumption in the context of leisure activities (e.g., going out to restaurants, bars, clubs, parties at residences of others, and so on). These activities almost always take place at night. Routine activities and lifestyles that involve going out in the evening have been found to be significantly related to the risk of victimization (Miethe, Stafford & Long 1987; Sampson & Wooldredge...
1987) regardless of other factors such as gender, ethnicity, and age. Thus the consumption of alcohol and the pursuit of leisure activities related to alcohol consumption places people in contexts where violence is much more likely to occur.

Based on the theoretical arguments presented this far, it can be seen that there are contexts where violence and alcohol are related. However, these factors by themselves do not tell us much about the situations in which alcohol and violence are empirically linked. After all, many people drink without ever becoming involved in violence.

A perspective which tries to explain how the causal effect of alcohol and violence is triggered within such contexts is the selective disinhibition approach (Parker & Rebhun 1995: 33-41). Selective disinhibition provides an explanation for why so few social interactions involving alcohol end up also involving violence, while at the same time elucidating the causal role sometimes played by alcohol in these incidents of violence. This theory argues, based in part on physiological evidence about the impact of alcohol on brain function, information processing, and social interaction (see Pihl, Peterson & Lau 1993), that alcohol can, given the right social circumstances, disinhibit norms of behavior that usually constrain one from using violence as a means of dispute resolution and strengthen norms that encourage the use of violence in dispute resolution. If this argument holds, any face-to-face dispute between two or more parties is more likely to involve violence if one or more of the parties have been consuming alcohol. To illustrate, suppose a large, armed male adult is having a dispute with a small, unarmed female who could be a potential date. Norms governing this kind of interaction would prohibit the use of violence to end the dispute in the male’s favor, as this would eliminate for most females the possibility of dating the violent male. Given the physical and weaponry advantages, the male who has been drinking in this situation is more likely to resort to violence to end the dispute in his favor than a nondrinking male would in a similar situation. On the other hand, if the female was accompanied by a male date who was larger, stronger, and/or better armed than the first male, it is unlikely that any level of consumption would overcome norms of self preservation and cause the first male to attack the female disputant. This is again an extreme example to illustrate the argument presented by the selective disinhibition theory, and is a probability based argument; however, the empirical data examined to date have produced results that are consistent with this theory (Alaniz, Cartmill & Parker 1998; Parker 1995; Parker & Rebhun 1995).

A final argument to be considered here draws on both the hot spots literature and the theoretical models discussed here to argue that alcohol can be one of the causes of violence in which neither party to the violent act has been drinking. To understand how this might be the case, a concept can be borrowed from astronomy—the notion of the “Great Attractor” (see Kraan-Korteweg & Lahav 1998). This is a region in space towards which a very large number of galaxies and clusters of galaxies are being drawn, presumably by some object or set of objects with enormous gravitational pull. Like the Great Attractor in space, places with higher than average concentrations of alcohol outlets and consuming patrons can serve as “social attractors” with regard to a variety of criminal and violent behaviors. The people involved in some of these acts of violence may have not been drinking alcohol that day or evening prior to the violence, but nonetheless alcohol has played a causal role by creating an atmosphere—both social and physical—in a particular location which allows for the occurrence of a variety of immoral and illegal behaviors that could lead to violence. One example is drug dealing—an intersection with several bars and a city park may become the center of a drug market place, attracting drug users and sellers in the evening. The drug users and sellers may be perfectly sober, but disputes over sales and territory may erupt at that location and be settled by violence, even though no one has had a drink that evening. This argument further supports the notion that contexts involving the sale, distribution, and consumption of alcohol can, through a variety of mechanisms, enhance the likelihood that violence will occur at higher rates there then elsewhere in a city or town.

In short, there are a number of good theoretical reasons to expect a relationship between alcohol and violence. This article now turns to a review of some empirical studies which have been informed by these theoretical approaches and provide some examples of the nature of research findings on the causal role that alcohol plays in violence.

**EMPIRICAL STUDIES ON THE ALCOHOL AND VIOLENCE RELATIONSHIP**

The four studies summarized here represent different levels of analysis, from individuals to neighborhoods and communities, different ways of measuring violence and alcohol use or availability, and different methodological approaches. However, they all are attempts to assess the role of alcohol in the causation of violence, above and beyond the well-researched and well known causes of violence such as poverty, lack of role models and supervision, lack of economic opportunity, age, and gender. In addition, they all have indirect or direct relevance for policy discussions based on the findings of these studies. After summarizing these four empirical studies, the implications for prevention will be discussed by way of conclusion.

**From the Beginning: Alcohol, Drugs and Aggression in Preadolescent Youth**

In the context of a study by the author and Emily O’Neil examining the impact of a mental health intervention in the Riverside, California Unified School District,
data were collected from a sample of children in grades three to six at two elementary schools. The working sample consisted of 386 children, representing a response rate of approximately 30%. Of those children, approximately 157 provided data for both pre- and post-test. The sample was divided approximately equally between boys (48.9%) and girls (51.1%). Ethnicity data were available for 191 students. The ethnic distribution was as follows: 54.5% Hispanic; 30.9% White; 10.5% African-American; 2.1% Asian. Approximately 17.8% of the students came from socioeconomically disadvantaged homes (measured by free or reduced cost lunch status), and 27.2% spoke English as a second language.

Initially, participants were asked to respond to items from the Normative Beliefs About Aggression scale (Huesmann & Guerra 1997), as well as items addressing school violence (taken from the California School Climate and Safety Survey; Furlong & Morrison 1994) and victimization (taken from the Multidimensional Peer-Victimization Scale; Mynard & Joseph 2000). In the second wave of data collection, items were added to evaluate drug and alcohol use. The initial assessment was performed in February 2001, with follow-up in October 2001. Archival data provided by the school district included ethnicity, English language learner/nonlearner status, home language, parent education, socioeconomic status, and standardized achievement scores in reading, math, language, and spelling.

As far as the social and behavioral factors that lead to aggression are concerned, a lack of impulse control featured prominently in the results. In addition, if a child already had normative beliefs that supported and justified the use of violence, more early aggressive behavior resulted. The study also controlled for socioeconomic status and ethnicity, comparing Whites to Latinos and African Americans; these variables had little predictive impact on violence and victimization.

Considering the second wave of the model data, the greater the experience of aggression was early on, the more attitudes and norms developed to favor violence. This increase in attitudes and norms favorable to violence in turn led to a significant increase in the frequency of alcohol consumption. So while these findings do not support the notion of a direct effect between early violence and victimization and subsequent substance use, in the case of both alcohol and other drugs, aggressive attitudes appeared to indirectly influence additional substance use. In turn, both frequent alcohol and other drug use resulted in increased aggressive behavior in the second wave of the data. This is not the case, however, for victimization.

Although this study has limitations, it is important because it is longitudinal and was conducted at the individual level. These results help to explain other research among youth in similar nonrepresentative samples (see White, Pandina & LaGrange 1987) in which aggression leads to consumption, and not the reverse; these findings show that among youth the process is likely to be indirect, with attitudes and norms towards violence forming early in development among some youth, resulting in a process whereby consumption of alcohol leads to violence in later adolescence and young adulthood.

These data show that even at very early ages, evidence can be found for a relationship between alcohol and violence. What can be learned about this relationship from looking at neighborhood level analyses?

During the 1990s, the Prevention Research Center in Berkeley, California undertook a three community comparative study of the role of alcohol in accidents and injuries (see Holder et al. 1997), which they referred to as the "Community Trials" study. Although the Community Trials project did not deal with violence, a companion study was conducted by the present author in which data from police departments in two of the communities (Oceanside, California and Florence, South Carolina) on homicide, robbery, rape, and assault were linked to alcohol outlet density, along with social, economic, and population characteristics from the 1990 U.S. Census of Population and Housing. As the census bureau block group was the unit of analysis, appropriate methods were utilized to deal with the potential confounding effect of spatial autocorrelation, a potentially biasing condition that can result from the analysis of contiguously arrayed spatial data, for the results (Gruenewald et al. 1996; also see Cliff & Ord 1981).

The results of a pooled analysis for the two communities (total number of block groups = 87) indicated that alcohol outlet density, measured as off site outlets per 1,000 population in the block group, was a significant predictor of the rate of violence in the block group, controlling for poverty, unemployment, population stability, ethnicity (percent African American in Florence; percent Latino in Oceanside), presence or absence of legitimate adult roles models (measured by the rate of professional and technical occupation holders in the block group) and the level of supervision of youth (indicated by the divorce rate). Poverty had a main effect as well as an interaction effect with African Americans, and there were some unexplained site differences such that Florence had higher rates of violence than did Oceanside.

It has been demonstrated in the literature that there is a direct correspondence between availability of alcohol in a neighborhood and the consumption level of the residents (Gruenewald, Ponicci & Holder 1993). Thus, the results of the Florence and Oceanside study show that availability has an impact on rates of violence net of a number of important predictors of violence, and consistent with a number of the theoretical perspectives presented above. These findings were based on an overall measure of violence; does this relationship hold for specific types of violent crime, such as youth gang activity?

Project Bridge was originally funded by the Office of Juvenile Justice and Delinquency Programs, a division of
the U.S. Department of Justice, as part of a national study conducted by Irving Spergel of the University of Chicago. Professor Spergel, one of the pioneers in gang intervention research (see Spergel 1995), developed a model designed to intervene at an individual level in order to disrupt a gang member’s ties to his or her gang and to provide, via a gang worker whose roles include big brother, mentor, advisor, and referral agent for services and programs, an alternative lifestyle, set of skills, and opportunities for educational and economic advancement. Spergel sought to demonstrate in a five-site national study that his approach, combined with a variety of coordinated law enforcement strategies, would be successful in reducing individual gang member’s involvement in both gang and nongang-related criminal activity. In addition, Spergel also argued that the combined approach of individual intervention and law enforcement strategies should be targeted to specific geographic areas in which gangs conducted activities, and that an additional outcome would be an area-specific reduction in gang and nongang-related crime. 

In an analysis at the block group level for the city of Riverside in the year 2000, data from the continuation of Project Bridge were utilized by the present author and colleagues (Celeste Wojtalewicz of the Riverside Police Department and Kay Pith, Emily O’Neill and Louis Tuthill of the Presley Center at UCR) to test the linkage between alcohol availability and gang-related violence. Data were obtained from the Riverside Police Department on all gang-related violent incidents in 2000, including homicide, robbery, assault, rape, and weapons violations. In a multivariate model using the same statistical approach referred to previously to account for spatial autocorrelation, alcohol outlet density (measured as off site retail outlets per 1,000 residents) was found to be a significant predictor of gang violence, controlling for ethnic composition, divorce, vacant housing units, owner occupied units, and the proportion of young males. In addition to outlet density, factors such as percent Latino, divorce rates, and vacant housing units all correlated with increased gang violence while owner occupied units correlated with reduced gang violence. This is a very interesting finding, as gang violence has been among the most difficult to prevent or control; if alcohol plays a causal role in such violence, perhaps prevention and control efforts can be redirected (more about this idea in the conclusions below).

The fact that the results of these studies are consistent with theoretical models of the alcohol and violence relationship is very important. Despite the common wisdom in epidemiology and public health, longitudinal data and experimental manipulations do not guarantee that causal inferences can be drawn. For example, one could experimentally manipulate the color of shoes worn by youth in a community, and claim that a subsequent drop in violence was the result of this factor. This hypothetical study has all the characteristics of a causal assessment, except that it lacks the most important factor in understanding cause and effect in science: a theoretical model that explains why shoe color and violence should be related, and what expectations the researcher should have about the direction of the relationship. The extant theories argue that alcohol causes violence, and the studies discussed here are a small subset of the much larger body of literature of empirical findings consistent with this prediction. It is, of course, possible to specify a theory that violence causes alcohol consumption, and indeed some studies of youth have posited such an approach (see White, Pandina & LaGrange 1987). However, for alcohol is highest among middle class and upper middle class consumers, not among poor residents in neighborhoods with high rates of violence and high density of outlets (Gruenewald, Ponicki & Holder 1993). The idea that more violent areas demand higher alcohol outlet density is thus both theoretically and empirically inconsistent with the extant research.

The results of the three studies summarized thus far imply that if alcohol consumption or availability were reduced, violence would be reduced as well. Although a number of studies have examined this possibility (Lenke 1990), there is an absence of community-based longitudinal studies in which alcohol availability has been reduced and rates of violence have subsequently been examined. The final study to be discussed here takes advantage of a natural experiment which occurred inadvertently in one small Northern California city.

As part of a larger study on Latino youth violence and the impact of alcohol (see Alaniz & Parker 1997), an opportunity to examine the impact of a reduction in alcohol availability (as measured in off site retail alcohol outlets) presented itself in Union City, California. The study was conducted by the author, Maria Alaniz (San Jose State University) and Deborah Plechner (University of Minnesota, Duluth). The study period was the years 1992, 1993, and 1994, and data on youth violence were collected from the Union City police department. Youth violence included homicide, robbery, assault, arson, rape, and weapons violations, e.g., threatening someone with a deadly weapon.

Independent of this study, the city council of Union City decided to revoke some zoning variances that had been granted to retail businesses, among these several alcohol outlets, in areas of the city zoned strictly for residential land use only. This occurred as part of a general review of the zoning plan undertaken by the city at this time. As a result, at the end of 1993, five block groups in the city suffered a drop in the alcohol outlet density for 1994 as compared with that of 1992 and 1993. This decrease in outlet density was measured and included in a multivariate spatial regression model, and found to have a significant and negative relationship with youth violence. Overall outlet density had a significant and positive effect on youth violence as well, and the block groups with a higher proportion of young males had higher rates of youth violence.
Other variables included in the model included poverty, unemployment, divorce rates, and the proportion of adult male role models in professional occupations were also controlled for in this analysis.

This final study demonstrates the impact of policy change with regard to availability of alcohol and violence in a community. If we assume that this is a general phenomenon, and not a unique finding (and there is no reason, given the other studies reported here and elsewhere, to believe that this is unique to Union City), there are significant policy implications of this research on alcohol and violence.

CONCLUSIONS: POLICY IMPLICATIONS AND RECOMMENDATIONS

What are the implications of the studies discussed here and elsewhere in the growing literature on the relationship between alcohol and violence? First, policy makers and researchers have typically viewed alcohol control policies and crime control policies as independent domains of policymaking and policy analysis. These studies suggest that this separation is artificial, and that alcohol control policy is also crime control policy. In other words, for those who are attempting to control, prevent, or reduce violence in society, alcohol control policies can and should be added to the set of policies and approaches used by policy makers, law enforcement personnel, and communities wishing to reduce the toll that violence exacts from our families, schools, communities, and nations.

In addition to adding some potentially effective tools to a set of policies that have not been particularly successful (e.g., antigang policies have been notoriously unsuccessful, yet one of the studies summarized here suggests that alcohol control might be an effective gang control policy tool), another set of advantages accrue if alcohol policy is considered to be crime policy. Alcohol control policy is well established in the legal and legislative arenas, at the local, state, and federal levels. Alcohol outlets are regulated by a combination of local and state statutes and practices, and the repeal of prohibition at the national level in the United States gave states the right to regulate alcohol production, sales, and distribution. Federal, as well as state and local, taxes also can be and are levied on alcohol, and states and cities have passed regulations governing hours of sale, server behavior, age of purchase, and in some cases, the volume of advertising in on site and off site outlets. Thus no new significant legislation need be passed, and no entirely new channels of regulation need to be invented and sold to the alcohol industry, legislators, and the public. Only new efforts to enforce existing statutes and regulations are needed in most communities to begin to reap the potential benefits of thinking about alcohol control as crime control policy.

What policies should be recommended for increased attention? There are a number of possibilities, only some of which will be mentioned here. First, communities can limit the tendency for outlet density to increase by strictly enforcing the regulations and policies for approval of new outlets. In some cases, local or state ordinances allow consideration of existing density and the current rate of crime and violence in the area being proposed for a new outlet. Similarly, most regulatory schemes in use in the U.S. allow for a review of an existing license to distribute alcohol when that business changes ownership; this would be another way to attempt to reduce the outlet density in a high-violence neighborhood by seeing that some outlets are not allowed to continue under new ownership. The perception among some in our society is that businesses have an unfettered right to make profits regardless of the impact this has on the community. However, the regulatory regimes described here exist at the local level so that communities can exercise some constraint on those who benefit from the fact that our society has made alcohol the legal drug of choice. Outlet density can also be reduced by examining and in some cases revoking zoning variances that have allowed the density to increase in areas that are supposed to be restricted to residential land uses. Alcohol taxes can be increased, with expected reductions in consumption to result.

Such policies could be undermined by displacement—that is, these policies applied in one neighborhood could cause the alcohol related violence or outlets to move to another area, to avoid the enforcement of policies—and there are some prominent examples of this. Texarkana, a city equally divided between a dry Arkansas county and a very high density outlet wet Texas county is a prime example; the main street of this city has dozens of alcohol outlets of the Texas side and none on the Arkansas side. The Texas side has consistently higher rates of violence than the Arkansas side, but the people involved in this violence are just as likely to be from Arkansas as from Texas. However, in most communities, with adequate planning and zoning, displacement of outlets and violence can be minimized.

A number of the studies described here have focused on violence among youth. Alcohol sales to those under the age of 21 are illegal in the U.S., yet many such sales occur. Thus, a major opportunity exists to reinvigorate the enforcement of local and state laws concerning underage buying and selling. This can be done in a variety of ways, from public campaigns to enlist the voluntary cooperation of merchants, to increased training of clerks in retail outlets, to police initiated underage buying stings, and pseudo underage buying programs, all of which can be made more effective by the appropriate local publicity. No new laws or regulations are necessary, just a redecommitment to enforce existing laws and regulations.
To summarize, this article has reviewed theoretical arguments that explain why and how alcohol plays a causal role in violence. A number of empirical studies have been reviewed in which the findings are consistent with these theoretical arguments, and in one case, a longitudinal intervention was measured and found to result in reduced rates of violence. Taken together, the theoretical arguments and empirical results discussed here provide strong evidence in support of the idea that alcohol control can be violent crime control. Finally, some suggestions for how to proceed in terms of enforcement of existing policies that can result in a reduction of the toll that violence takes from our lives and communities have been presented.

REFERENCES


