

Markowitz, Sara J.

Article

Alcohol and violence

NBER Reporter Online

Provided in Cooperation with:

National Bureau of Economic Research (NBER), Cambridge, Mass.

Suggested Citation: Markowitz, Sara J. (2001) : Alcohol and violence, NBER Reporter Online, National Bureau of Economic Research (NBER), Cambridge, MA, Iss. Fall 2001, pp. 10-13

This Version is available at:

<https://hdl.handle.net/10419/67032>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

schools to manipulate their resources in an ultimately unproductive manner and to ensure that the schools labeled "excellent" or "failing" truly are excellent or failing along the desired lines. In addition, we should try to avoid creating the impression of randomness in the assignment of school grades. The more random the rewards and punishments appear to be, the less likely the schools will effect meaningful change. The literature on tax limitation provides another lesson that might be applied here: Kim Rueben and I find that tax limitations led to a worse degrada-

tion of the teaching force than might have been expected on the basis of the actual changes in resources and salaries.⁶ Likewise, perceived randomness in school grading might change the nature of the teaching force. Although this last point is speculative, our concern is genuine.

¹ T. J. Kane, D. O. Staiger, and J. Geppert, "Assessing the Definition of 'Adequate Yearly Progress' in the House and Senate Education Bills," *UCLA Working Paper*, July 2001.

² D. N. Figlio and M. E. Page, "Can School Choice and School Accountability Successfully Coexist?" *forthcoming in The*

Economics of School Choice, C. Hoxby, ed., University of Chicago Press.

³ T. J. Kane and D. O. Staiger, "Improving School Accountability Measures," *NBER Working Paper No. 8156*, March 2001.

⁴ D. N. Figlio and M. E. Lucas, "What's in a Grade? School Report Cards and House Prices," *NBER Working Paper No. 8019*, November 2000.

⁵ D. N. Figlio and A. O'Sullivan, "The Local Response to Tax Limitation Measures: Do Local Governments Manipulate Voters to Increase Revenues?" *Journal of Law and Economics*, 44 (April 2001), pp. 233-57.

⁶ D. N. Figlio and K. S. Rueben, "Tax Limits and the Qualifications of New Teachers," *Journal of Public Economics*, 80 (April 2001), pp. 49-71

Alcohol and Violence

Sara Markowitz*

Since the early 1980s, a number of economists have examined the impact of the price of alcoholic beverages on alcohol consumption. Recently their research has turned to the role of alcohol prices on negative outcomes, including motor vehicle crashes, workplace accidents, cirrhosis of the liver, alcohol-related deaths, and crime.¹ In general, this research, which has used a wide variety of data, has concluded that increases in the prices of alcoholic beverages do lead to reductions in drinking, and thus in the adverse consequences of alcohol use and abuse. Along these lines, my research explores the links among alcohol consumption, alcohol control policies, and violence.

Violence is of particular interest because of the mental and physical harm it inflicts on others. The victims, often well known to the perpe-

trator, include spouses, children, and friends. Alcohol is frequently a factor in such violence. When the victim is the offender's spouse, alcohol is a factor as much as 75 percent of the time.² Alcohol consumption is cited also as a common correlate of violence committed by teenagers. Although the two behaviors often are observed together, much is still unknown about their association. Understanding the nature of their relationship is important from a policy perspective: if alcohol consumption does indeed lead to violent behaviors, then it may be possible to reduce violence through changes in policies that affect the demand for alcohol.

My interest in the alcohol-violence connection has led me in two main directions in my work: first, focusing on the relationship between alcohol and criminal violence and second considering the impact of alcohol consumption on the family, where violence is only one of the ways in which children and spouses are affected.

Alcohol and Criminal Violence

Although alcohol consumption is widely believed to be a precipitator of violent behaviors, it is not clear whether the relationship is causal. If alcohol consumption results in a pharmacological reaction that makes people more likely to engage in violent behaviors, that implies causality. However, both behaviors may be outcomes of a third factor, such as an individual's personality. Even without knowing the true causal nature of the alcohol-violence connection, one can examine the role of alcohol price in reducing violence: estimating a reduced-form equation yields a model of violence as a direct function of the full price of alcohol. Prices are not expected to have any impact on violence except through consumption. Thus, any price effects provide evidence that alcohol consumption and violence are causally linked.

In two recent studies, I use reduced-form models to examine the

* Markowitz is a Faculty Research Fellow in the NBER's Program on Health Economics and an assistant professor of economics at Rutgers University, Newark. Her "Profile" appears later in this issue.

impact of alcohol control policies on the incidence of assault, rape, and robbery. This approach accounts for the possibility that consumption by both perpetrators and victims may influence the occurrence of crimes. Alcohol consumption may intensify a perpetrator's tendency to violence, while a victim's consumption may result in behaviors that put him or her at greater risk.

In the first of these studies, I focus on crimes in the United States and consider the impact of alcohol policies, as well as illegal-drug policies.³ Illegal drugs may have the same impact as alcohol on the propensity for violence. Previous studies have had to rely on data collected from police reports, which dramatically underreport crimes, but this research is the first to look at the alcohol-violence link using individual-level data. The data on crime come from special geographically coded versions of the 1992, 1993, and 1994 National Crime Victimization Surveys. Criminal violence is measured in terms of physical assault, rape and sexual assault, and robbery, as well as alcohol- or drug-involved assault, rape and sexual assault, and robbery. Given that not all violence is alcohol- or drug-related, these latter measures are particularly useful. They identify only crimes in which the victim observed that the perpetrator was under the influence of a mind-altering substance. There are drawbacks to these measures: the victim's consumption is not reported, and the perpetrator's actual consumption is not confirmed and may be reported inaccurately.

The results show that increasing the tax on beer decreases the probability of assault, but it has no effect on robbery and rapes and sexual assaults. A single percent increase in the beer tax decreases the probability of assault by 0.45 percent. Furthermore, a 1 percent decrease in the number of outlets that sell alcohol decreases the probability of rape by

1.75 percent. Decriminalizing marijuana increases the probability of being a victim of assault and robbery, but decriminalization of marijuana does not affect rapes. Likewise, higher cocaine prices decrease the probability of being a victim of assault and robbery but have no effect on rapes. For cases in which the perpetrator was observed to be under the influence of alcohol, illegal drugs, or both, the results are similar to those for all types of victimization: higher beer taxes decrease the probability of assaults.

The second study examines crimes worldwide.⁴ The data come from the 1989 and 1992 International Victimization Surveys, which include large samples of respondents from 16 countries. The respondents were asked whether they had been victims of robbery, assault, or sexual assault. The results indicate that both higher prices for alcoholic beverages and higher taxes on alcohol lead to lower incidences of all three types of violent crime. For example, a 1 percent increase in the tax on alcohol leads to a 0.19 percent decrease in the probability of robbery, a 0.25 percent decrease in the probability of assault, and a 0.16 percent decrease in the probability of sexual assault. Regulatory variables relating to alcohol may have negative effects on crime as well. Lowering legal blood-alcohol levels, imposing bans on advertising, and raising minimum legal-drinking ages reduce the probability of robbery. Lowering legal blood-alcohol levels also may reduce the probability of assault, but neither advertising bans nor higher minimum legal-drinking ages reduce the probability of assault or sexual assault against women.

Alcohol and Violence by Youths

During the past few decades, violence committed by and against

teens has become a serious problem. Violent victimization of youths between the ages of 16 and 19 has been increasing since the 1970s. For all types of violent crime, teens in this age group suffer higher rates of victimization than any other age group.⁵ But what causes teens to engage in violence and to carry weapons? Certainly a wide variety of factors contribute to the culture of violence faced by today's teenagers. These factors include family structure, environment, and peer behavior, but alcohol and drug use are two of the most widely cited correlates of youth violence.

Michael Grossman and I examine whether alcohol consumption increases the likelihood that college students will engage in violent behaviors and whether higher taxes on beer might directly decrease the incidence of violence.⁶ Our research focuses on four adverse consequences of alcohol consumption that serve as indicators of violence: getting into trouble with the police or residence-hall and other college authorities; damaging property or pulling a fire alarm; getting into an argument or a fight; and taking advantage of another person sexually or having been taken advantage of sexually. Our principal finding is that the incidence of each of these four acts of violence is inversely related to the price of beer in the state in which the student attends college. We also examine a structural equation in which violence is modeled as a function of alcohol consumption. Simple ordinary least squares (OLS) estimation of the structural equation may be biased because of the possibility that both violence and consumption are determined by the same unmeasured individual traits. Therefore, we use two-stage least squares (2SLS) estimates to purge the consumption measure of its correlation with unobserved characteristics. Our results show that

alcohol consumption is related positively to all measures of violence, and these results are consistent with a causal mechanism.

In a similar study, I examine whether alcohol or drug use increases the likelihood that teenagers in high school will engage in violent behaviors measured in terms of physical fighting, carrying a gun, or carrying other types of weapons.⁷ Using 2SLS, I show that beer and marijuana consumption do lead to more physical fights, but there is no evidence that the consumption of these substances increases the probability of carrying a gun or other weapons. I also estimate the reduced-form equation and show that higher beer taxes lower the probability of physical fights but not of carrying weapons.

Alcohol and the Family

Focusing on violence in the family, I look at the effect of alcohol regulation on spousal abuse.⁸ The data for this study come from the 1985 cross section and the 1985–7 panel of the National Family Violence Survey. After controlling for unmeasured characteristics in the panel, I find that increases in the price of alcohol reduce the probability of severe violence aimed at wives. However, the evidence is inconclusive on the propensity of an increase in the price of alcohol to lower violence towards husbands. Severe violence is defined as kicking, biting, or hitting with a fist; hitting or trying to hit with an object; beating; choking; or threatening to use or using a gun or knife.

Recognizing that children also are at risk for alcohol-related violence, Michael Grossman and I examine the impact of alcohol price and regulation on the incidence of child abuse.⁹ Using data from the 1976 and 1985 National Family Violence Surveys, we estimate models in which the incidence of child abuse is affected by the state excise-tax rate on beer,

illegal-drug prices, decriminalization of marijuana, laws restricting alcohol advertising, the per capita number of outlets licensed to sell alcohol, and demographic and socioeconomic characteristics of parents. Results from the 1976 data show that increasing the tax on beer can be an effective policy tool for reducing violence and that laws designed to make obtaining beer more difficult also may be effective in reducing violence. Restrictions on advertising and increases in illegal-drug prices have no effect on child abuse. When the 1976 and 1985 data are pooled and state fixed effects are added, the results are similar.

Parental alcohol consumption may have other negative ramifications for a child's health. Previous research observed that children of substance-abusing parents are more likely to have behavior problems that may lead to psychiatric disorders, delinquency, or violent behaviors in later childhood and adolescence. The link between parental substance use and the children's mental health is not well understood. Furthermore, the existence of a causal link between a mother's postnatal substance use and her child's adverse outcomes remains controversial. The observed positive correlation may be causal if alcohol consumption has a direct impact on parenting ability and the amount of time parents spend with children and therefore adversely affects children's well-being. However, the relationship between parental substance use and children's mental health may be a result of unobserved factors that determine outcomes, such as parental psychiatric disorder, individual personality, or home environment.

Pinka Chatterji and I examine whether maternal drug and alcohol consumption has a direct impact on children's behavior problems.¹⁰ If maternal substance use is causally linked to children's behavior prob-

lems, then programs and policies that reduce maternal substance use may benefit the children. Alternatively, if unobservable factors can explain the link between maternal substance use and children's outcomes, then programs and policies that reduce maternal substance use will not improve children's outcomes.

We develop a production function for children's mental health that provides the analytical framework for assessing whether drug and alcohol consumption by mothers interferes with children's mental health. We use two empirical methods to address this issue, and each accounts for the influence of unobserved factors. In the first, we use a 2SLS estimation that relies on alcohol prices and illicit-drug prices and policies as identifying instruments. In the second, we use fixed-effects models that control for unobserved heterogeneity at the level of the mother's family of birth and at the level of the mother-child pair. The family fixed-effects model is based on the idea that mothers and their sisters share unobserved characteristics that affect children's behavior. The mother-child fixed-effects model presumes that the individual mother-child pair has unique unobserved characteristics that influence behavior.

Using data from the Children of the National Longitudinal Survey of Youth, we find that maternal substance use is linked causally to children's behavior problems. The 2SLS results are problematic because of the poor performance of the identifying instruments. The OLS models, family fixed-effects models, and mother-child fixed-effects models all suggest that maternal use of alcohol, marijuana, or cocaine is associated with an increased prevalence of behavior problems in children four to 15 years old. We use broad measures of substance, including consumption of all substances at any

current level of use. The effects of diagnosed substance abuse and dependence may have a much greater impact on children than undiagnosed, or more casual, use. Moreover, children at certain ages, for example, during early childhood, may be more vulnerable to the effects of maternal substance use. Estimating these effects is a direction for future research.

¹ For a review of the literature, see F.J. Chaloupka, M. Grossman, and H. Saffer, "The Effects of Price on the Consequences of Alcohol Use and Abuse," in *Recent Developments in Alcoholism*, Volume 16: *The Consequences of Alcohol*, M. Galanter, ed. New York: Plenum Publishing, 1998.

² L.A. Greenfeld, *Alcohol and Crime: An Analysis of National Data on the Prevalence of Alcohol Involvement in Crime, a report prepared for the Assistant Attorney General's National Symposium on Alcohol Abuse and Crime*, April 1998.

³ S. Markowitz, "An Economic Analysis of

Alcohol, Drugs, and Violent Crime in the National Crime Victimization Survey," NBER Working Paper No. 7982, October 2000.

⁴ S. Markowitz, "Criminal Violence and Alcohol Beverage Control: Evidence from an International Study," NBER Working Paper No. 7481, January 2000, and in *The Economic Analysis of Substance Use and Abuse: The Experience of Developed Countries and Lessons for Developing Countries*, M. Grossman and C.R. Hsieh, eds. Cheltenham, United Kingdom: Edward Elgar Publishing, 2001.

⁵ U.S. Department of Justice, Bureau of Justice Statistics, *Violent Crime*, NCJ-147486; and U.S. Department of Justice, Bureau of Justice Statistics, *Criminal Victimization 1998: Changes 1997-98 with Trends 1993-98*, NCJ-176353.

⁶ M. Grossman and S. Markowitz, "Alcohol Regulation and Violence on College Campuses," NBER Working Paper No. 7129, May 1999, and in *The Economic Analysis of Substance Use and Abuse: The Experience of Developed Countries and Lessons for Developing Countries*.

⁷ S. Markowitz, "The Role of Alcohol and Drug Consumption in Determining

Physical Fights and Weapon Carrying by Teenagers," NBER Working Paper No. 7500, January 2000; forthcoming in *Eastern Economic Journal*.

⁸ S. Markowitz, "The Price of Alcohol, Wife Abuse, and Husband Abuse," NBER Working Paper No. 6916, January 1999, and *Southern Economic Journal*, 67 (October 2000), pp. 279-303.

⁹ S. Markowitz and M. Grossman, "Alcohol Regulation and Violence Towards Children," NBER Working Paper No. 6359, January 1998, and *Contemporary Economic Policy*, 16 (July 1998), pp. 309-20; S. Markowitz and M. Grossman, "The Effects of Alcohol Regulation on Physical Child Abuse," NBER Working Paper No. 6629, July 1998, and *Journal of Health Economics*, 19 (March 2000), pp. 271-82.

¹⁰ P. Chatterji and S. Markowitz, "The Impact of Maternal Alcohol and Illicit Drug Use on Children's Behavior Problems: Evidence from the Children of the National Longitudinal Survey of Youth," NBER Working Paper No. 7692, May 2000; forthcoming in *Journal of Health Economics*.

Taxes, Welfare, and Work by Single Mothers

Bruce D. Meyer*

Between 1984 and 1996, changes in tax and transfer programs sharply increased the incentives for single mothers to work. Two aspects of these policy changes are often overlooked. First, many important policy changes occurred even before the implementation of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). Second, despite the media's emphasis on welfare cuts, workfare, and time limits, many of the post-1984 policy changes have encouraged work by increasing financial rewards for work-

ing mothers, not by cutting their benefits. These policy changes have included large expansions of the Earned Income Tax Credit (EITC) and Medicaid for families with working mothers, reductions in the implicit tax rates of Aid to Families with Dependent Children (AFDC), and new child-care programs. During this same period, single mothers began to work more; their weekly employment increased by about 6 percentage points and their annual employment increased by nearly 9 percentage points. Other groups—for example, single women without children, married mothers, and black men—did not experience similar gains in employment during this period. In recent work, Dan T. Rosenbaum and

I document the changes in programs and incentives directed toward single mothers, and we examine the effect of these changes on the employment of these women.¹ We show that a large share of the increase in single mothers' work through 1996 can be attributed to the EITC and other tax changes, with smaller shares attributable to cuts in welfare benefits, welfare waivers, training, and child care programs.

The 1984-96 period provides a rich laboratory for studying the effects of tax and welfare programs on the decision to work. The magnitudes of these effects are critical determinants of the gains or losses that result from changes in income redistribution and social insurance

* Meyer is a Research Associate in the NBER's Programs on Labor Studies, Public Economics, and Children. He is also a professor of economics at Northwestern University.