

Predisposition and Pressure: Mutual Influence and Adolescent Drunkenness

Monica Gaughan¹

School of Public Policy, Georgia Institute of Technology, USA

Many explanations of adolescent alcohol use patterns rely on a combination of individual, family, and peer influences to explain transitions and levels of use. Peer use of alcohol is often found to be the most important predictor of an adolescent's own use of alcohol. The predominant inference drawn from this consistent finding is that an adolescent's peers influence him or her to use alcohol. A methodological limitation of these studies is that they rely on information from only one member of the friendship pair. I posit that the traditional psychosocial model gives an incomplete understanding of the peer influence process. This study uses the sociometric design of the National Longitudinal Study of Adolescent Health (Add Health) to demonstrate that adolescent friends influence one another to establish and maintain alcohol use patterns over time. I estimate the effect of mutual peer influence in the context of a broader model of adolescent alcohol use that controls for individual background factors of each friend. The mutual influence process demonstrated in cross-sectional analysis persists in two longitudinal model specifications that control for prior behavioral similarity between the friends.

INTRODUCTION

To evaluate the health and well being of adolescents requires an understanding of them not only as individuals, but also as members of families, friendships, and social institutions. In particular, adolescents look to peer influences to guide their attitudes and behavior to a much greater extent than in childhood (Coleman 1961; Duncan, Haller and Portes 1968). Perched between childhood and adulthood, adolescents forge identities and behaviors from this fertile mix of socializing influences.

¹ Direct correspondence to author at School of Public Policy, Georgia Institute of Technology, Atlanta, GA 30332-0345. monica.gaughan@pubpolicy.gatech.edu. This research is based on data from the Add Health project, a program project designed by J. Richard Udry (PI) and Peter Bearman, and funded by grant P01-HD31921-01 from the National Institute of Child Health and Human Development to the Carolina Population Center, University of North Carolina at Chapel Hill. The author was supported by a National Research Service Award 5T32HD07168-12 from the National Institute of Child Health and Human Development to the Carolina Population Center, University of North Carolina at Chapel Hill. The author gratefully acknowledges the assistance of Karl Bauman, Ken Bollen, Elisa Bienenstock, Glen Elder, Rob Foss, Jim Moody, and Dick Udry.

In this analysis, I combine the strength of network analytic data that link actual friends with the strength of the psychosocial tradition that examines individual risk and protective factors. Specifically, I evaluate how drinking patterns are influenced by individual, family, and social characteristics, and by actual longitudinal peer friendships. I control for prior friendship selection and behavioral similarity while examining how mutual influence processes between friends hold up over time.

PEER MODELS OF BEHAVIORAL SIMILARITY

By far the most important predictor of adolescent alcohol use to emerge is the use pattern of peers. Adolescents with alcohol using peers are more likely to use alcohol than adolescents without drinking friends (Bahr *et al.* 1993; Bentler 1992; Clapper *et al.* 1994; Curran *et al.* 1997; Donovan and Jessor 1983; Jessor 1987; Johnson 1986; Marcos *et al.* 1986; Windle and Barnes 1988). Furthermore, adolescents with heavy drinking friends, or friends who get drunk, are themselves likely to engage in such behavior (Barnes, Farrell and Banerjee 1994; Barnes and Welte 1986).

What many psychosocial theories of adolescent behavior have in common is the critical importance of social context in affecting deviant behavior, including alcohol use. Theories vary with regard to the importance of causal ordering of social factors, but all include an attention to the importance of peer relations. Differential association theory (Sutherland 1947) emphasizes interaction with others that create differential social conditions for developing deviant behaviors. The social conditions foster favorable attitudes toward rule violation, which results in greater involvement in deviance. The associated theory of social learning (Akers *et al.* 1979) posits that affiliation with deviant groups reinforces deviant behavior. The theory provides a role for behavioral reinforcement, imitation, and peer influence processes; however, specifications of these models focus more on cognitive and attitudinal processes, and do not include actual friends in the empirical analyses.

Social control theory (Hirschi 1969) assumes that deviance is the natural human condition, and that conventional behavior is developed in association with conventional others. Family, peers, schools, and other social institutions exert indirect control over behavior by reinforcing involvement, commitment, and attachment to conventional institutions and behaviors. Problem behavior theory (Jessor and Jessor 1977) elaborates the social control process by focusing on the interaction of the personality system with the perceived environment of parent and peer attitudes and behavior. Social control theory starts with the assumption of human deviance, while differential association and social learning start with the assumption of human conformity. Despite this fundamental difference, the theories complement one another by elaborating the role for peers (in the case of the former), and the role of institutions and agents of social control (in the case of the latter).

These contributions are particularly important in the development of psychological and familial correlates of deviant behavior, but the operationalization of peer influence is poor, relying on self-reports of friend behavior. Because of these self-reports, and an empirical lens that focuses exclusively on a primary adolescent respondent, these studies do not investigate selection effects, or the independent background predictors of the friend's behavior. Interactional theory (Thornberry 1987) combines social control and social learning theories by explicitly modeling longitudinal mutual influence processes while controlling for prior behavior of the friends. Such an approach provides for a role for selection processes as well as influence processes. Unfortunately, investigations of interactional theory continue to rely on self-report of friend behavior (Matsueda and Anderson, 1998; Krohn, Lizotte, and Thornberry, 1996).

Despite the apparent consensus about the importance of peers, there are a number of problems that must be considered. The most important theoretical problem was raised by Lazarsfeld and Merton (1954) in their explication of homophily. Homophily--the observed tendency for friends to be similar to one another--can result from influence, selection, or deselection processes. Failure to address these issues can result in specification error. First, typical peer influence models assume unidirectional causality from the friend to the primary adolescent, eliminating mutual influence or selection as a plausible causal alternative. Second, adolescent reports of friends' use are biased to reflect the adolescent respondent's own use pattern (Wilcox and Udry 1986). Models that use actual friendship dyads (eliminating known reporting bias) do not account for the background and demographic factors of the friend that have been demonstrated to explain alcohol-related behavior in adolescence. Failing to control for factors affecting the friend's pattern of behavior may overstate the influence of the primary respondent in mutual influence models. Finally, influence models rarely explore the dynamic longitudinally. Studies may address some of these theoretical and practical problems, but not others.

The development of analytic techniques for sociometric nominations opened up friendship studies to new possibilities that included the inclusion of all theoretically relevant members of social groups. Most recently, Haynie (2001) found that the underlying structure of peer networks, and adolescent's position within them, conditions the influence of delinquent peers, but she does not address selection problems that earlier research has identified. Cohen (1977) and Kandel (1978a) were the first to use sociometric data to demonstrate that selection, or assortative pairing, accounted for about half of observed behavioral similarity in adolescent friendships. The importance of selection in explaining similarity between friends has been found for sexual behavior (Billy and Udry 1985a, b), drug use (Kandel 1978a, b), smoking (Bauman and Ennett, 1994; Ennett and Bauman, 1994; Fisher and Bauman 1988; Rodgers, Billy, Udry 1984), and alcohol use (Curran *et al.* 1997; Fisher and Bauman 1988; Rodgers, Billy, Udry 1984). Such findings weaken the causal argument often made about peer influence by showing that similarity operates at least in part through the selection of friends. Furthermore, these representations of the peer influence model do not provide for a mechanism of mutuality of influence.

Only a couple of studies of actual friendship pairs have controlled for demographic characteristics (Ennett and Bauman 1993; Rodgers *et al.* 1984). These studies also found important selection dynamics in addition to influence processes. Males tend to engage in problem drinking more than females (Robbins and Martin 1993), whites more than blacks, and age is an "organizing principle" of drinking, with adolescents and young adults establishing alcohol use patterns (Bucholz and Robins 1989). However, in addition to demographic characteristics, adolescents enter friendships with a variety of individual and family characteristics that influence alcohol use and exist independently of friendship dyads. These rich background predictors are amply demonstrated in the social psychological literature stemming from the interactional, differential association, social control, social learning, and problem behavior theories.

Family and Institutional Factors

Family contexts facilitate social bonds and involvement with family activities that protect against problem behavior. Supportive parents who monitor their children's behavior and engage in activities with them create conditions that limit opportunities to drink. Monitoring and control behavior that reduces drinking includes knowing the adolescent's whereabouts and activities, and knowing the adolescent's friends (Bahr *et al.*, 1993; Barnes and Farrell, 1992; Barnes *et al.*, 1994; Krohn *et al.*, 1988). Interaction and joint activities with parents engage adolescents in ways that inhibit drinking

and cigarette smoking (Johnson 1986; Krohn *et al.*, 1988). Finally, adolescents who feel close to and supported by their family engage in lower levels of alcohol use (Barnes and Farrell, 1992; Wills and Vaughan, 1989).

Adolescent commitment to conventional institutions tends to depress alcohol initiation and use. An extremely important dimension of the conventionality construct is the concept of religiosity. In previous studies, it was found that adolescent religiosity tends to inhibit or reduce a range of alcohol-related behaviors (Bentler, 1992; Donovan and Jessor, 1983; Jessor, 1987; Marcos *et al.*, 1986).

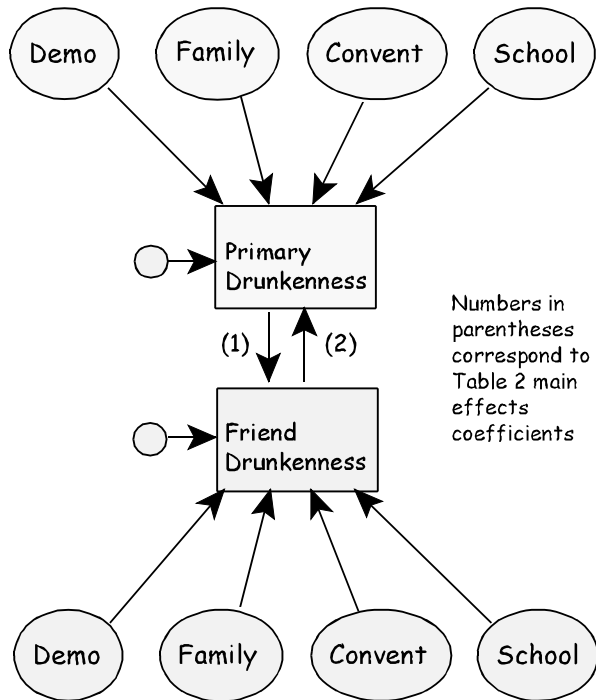


Figure 1. Cross-sectional Mutual Influence Model

Adolescents who are attached to school and involved in activities like sports or clubs have less time to get involved with cigarette smoking (Krohn, Massey and Zielinski, 1988) or delinquency (Hindelang, 1973; Hirshi, 1969). Theoretically, adolescents who do well in school and who are extensively involved will tend to score lower on school alienation. Those who struggle or who are not likely to be involved are more likely to score higher on school alienation, and, thus, to experience a risk factor with respect to frequency of drunkenness.

Conduct problems, where children and adolescents having conduct disorders in childhood, or in school, tend to develop early and/or problematic alcohol use (Barnes and Welte 1986; Robins and McEnvoy, 1989). The theoretical argument is that having trouble in school puts one at risk for deviance, including alcohol consumption.

Mutual Influence Theory of Adolescent Friendship Processes

Figure 1 depicts the theoretical model of the mutual influence process. I use family and individual characteristics as background controls in order to examine explicitly the mutual influence process in actual adolescent friends' alcohol use patterns, and to explore the effect of prior selection on later similarity. The improvement over extant models is the combination of the strengths of each research tradition. The importance of demographic characteristics, peers, families, and conventional affiliations is explicitly modelled while considering both friends simultaneously. Similar to the interactional model, this conceptualization incorporates paths of mutual influence between Friend 1 and Friend 2. Two additional features are noteworthy: each friend reports on his or her own behavior, eliminating a known source of reporting bias; furthermore, the individual and family characteristics of both friends are included in the model. Background characteristics include sex, age, race, religiosity, closeness to family, problems at school, and alienation from school.

The cross-sectional model provides an excellent opportunity to study possible confounding due to omitting the background characteristics of one of the friends. It can help examine how influence mechanisms operate among friends who do not continue longitudinally. Finally, cross-sectional

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