Adolescent Drinking and Driving: Beliefs, Referents, and Perception of Control

Mary-Ellen Fortini
Occupational Health Services, Inc.
125 East Sir Francis Drake Blvd., Suite 300
Larkspur, CA USA 94939-1860

In a review of the literature on young drivers, Stoddard and Rothe (1987) reported that 16- to 19-year olds have the highest crash rate per miles driven of any age group and that drivers below age 25 are over-represented in alcohol-related crashes. In addition, when compared to older drivers, a greater percentage of young drivers are involved in fatal crashes at lower blood alcohol concentrations (BACs). Jonah and Dawson (1987) found that 16- to 24-year old drivers were more likely to report driving while impaired, perceived it as less dangerous, and perceived countermeasures aimed at drinking drivers as less effective than did drivers from other age groups. It is clear that adolescents are a high risk group.

Many researchers have suggested that drinking and driving behavior can be better understood by examining the attitudes underlying the behavior (Donovan, Marlatt, & Salzber, 1983; Perrine, 1970; Wilks & Callan, 1984). In the past, attitude research has been based on the assumption that behavior is a direct reflection of attitude. However, an early review of the literature (Wicker, 1969) revealed that the correspondence between attitudes and behavior is extremely low.

Ajzen and Fishbein (1977; 1980) suggested that behavior may not directly reflect general attitudes because there are other variables which may play a role in whether or not an individual engages in any specific behavior. Among these variables are intentions, attitudes toward engaging in the behavior, and the individual’s perception of the norms regarding that behavior. This model is referred to as the theory of reasoned action.

According to this theory, an individual’s intention to perform a particular behavior is the most immediate predictor of that behavior. Additionally, there are two components of intention and, therefore, behavior. The first component is attitude toward performing the behavior, and the second is the subjective norm. Subjective norm refers to the individual’s perception of whether important people think he or she should engage in that behavior.
In recent works, Ajzen (1985) has added a third component of intention, perception of control to the model. The revised model is called the theory of planned behavior.

The determinants of attitude are the perceived outcomes of engaging in that behavior weighted by the evaluation of each outcome. The determinants of subjective norm are the beliefs that specific significant people think he or she should do weighted by the motivation to comply with each of those referents. The determinants of perceived control are the factors which will influence the decision to engage in the behavior weighted by the likelihood of that factor occurring.

The theory of reasoned action has been used in the field of traffic safety to predict the intentions of use and the actual use of safety belts (Wittenbraker, Gibbs, & Kahle, 1983) and to identify variables which are predictive of adolescent drinking and driving behaviors (Rothengatter & Jansen, 1986).

This study was designed to determine if adolescent drinking and driving could be predicted over time using the theory of planned behavior.

**Method**

**Subjects.** Five hundred thirty three students in grades 9 through 12 completed the first phase of the study. Only students who reported driving a motor vehicle within the previous year were sampled. Five hundred of the students completed both Phases I and II, 47% male and 54% female. Seventy six percent of the students classified themselves as White, 12% as Hispanic, 5% as Asian, and the remaining 7% as either African American, Native American, or other.

Four hundred seventeen (83%) of the students who completed both Phases I and II were contacted and interviewed for Phase III. Fifty four percent of these students were male and 46% female.

**Procedure.** Students completed the Planned Behavior Scale (PBS) in the classroom for Phase I. The PBS included 8 global statements and 88 specific statements assessing the three components and the determinants of the components of the theory of planned behavior, which were identified in an earlier pilot study (Fortini, 1990).

Three months later, Phase II was implemented, consisting of individual face-to-face interviews using a modified version of the Health Attitudes and Practices (HAP) survey (Perrine, 1989). Included in this survey was the behavioral measure: the number of times the student had driven when he/she thought he/she was probably over the legal limit.
Phase III, conducted approximately 9 months after the face-to-face interview, was a telephone follow-up interview. The questions were a subset of those from the earlier interview addressing specific behaviors which occurred since that time.

Results

Seventy six percent of the students reported that they have consumed alcohol and were thus classified as drinkers. The remaining 24% were classified as abstainers.

At the time of the face-to-face interview, 77% reported that they had never driven when they thought at the time they were over the legal limit. Twenty three percent reported doing so at least once. At the follow-up interview, 15% reported driving when they thought they were over the legal limit at least once since the previous interview.

Predictive Value of the Theory of Planned Behavior. Figure 1 shows the relationship between variables in the model. As expected, intention is a strong predictor of behavior; attitude and subjective norm are each significantly related to intention; and outcomes weighted by likelihood and referents weighted by motivation to comply are significantly correlated with attitude and subjective norm respectively.

Multiple regression analysis revealed that the components of the model taken together significantly predicted the intention to drive after drinking (R=.281, p<.001) and driving when over the legal limit reported at the first interview (R=.212, p<.001), accounting for 8% and 4% of the variance respectively. The components did not predict behavior reported at the follow-up interview (R=.084, p>.10).

Predictive Value for Drinkers Only. The same analyses were run using those students categorized as drinkers based on an assumption that those adolescents who reported drinking alcohol in the year prior to the face-to-face interview were at higher risk of driving after drinking than were abstainers. The relationships between variables in the model are presented in Figure 2. As in the previous analysis, all expected relationships are significant except those involving the perception of control variables.

Multiple regression analyses again revealed that the components of the model taken together significantly predicted intention (R=.283, p<.001), accounting for 8% of the variance and driving when over the legal limit at first interview (R=.262, p<.001) accounting for 7% of the variance. Again, the components were not significantly predictive of behavior at the time of the follow-up interview (R=.141, p>.10).
Discussion

This study examined the capability of a social psychological model in prediction of adolescent drinking and driving behavior. As expected, intention was significantly correlated with behavior both at the time of the face-to-face interview and approximately one year later. Further, the components of the model together are significant predictors of both intention and behavior at the first interview, but not at the follow-up interview.

The perception of control component was not significantly related to intention as proposed by the model. There are at least two possible explanations for this. First, it may be that the behavior is one over which an individual has volitional control. If so, it would be expected that this component would not contribute to the model at all (Ajzen, 1985). Second, it may be that the statements designed to assess perception of control were not doing that. This explanation seems plausible since there was not relationship between the specific statements in the Planned Behavior Scale and the global assessment of perception of control. Further study as to what perception of control means in this contest and how to measure it for this behavior is needed.

Another potential limitation of the study is the nature of the behavioral measures used. Drinking and driving is a very complex set of behaviors. For the purpose of this study, the behavior was defined as "driving when you thought you were probably over the legal limit." At best, it may be difficult for any individual to know exactly what "over the legal limit" means (Beirness, 1987). Some people overestimate, some underestimate, and some are mixed in their estimates of their blood alcohol level. The self-report of this particular behavior can only be a rough estimate of the actual number of times the individual has driven. Coupled with the likelihood of underreporting, this is a difficult behavior to measure.

Even with these limitations, this study provides some strong implications for the development of interventions and primary prevention strategies. Regardless of the criteria used, more detailed analyses revealed that attitude was consistently more important than the other components. With regard to intervention and prevention strategies, this would suggest that one potentially effective approach could be to identify and dispel beliefs about positive outcomes of driving after drinking alcohol. In addition, the beliefs about negative consequences should be made more salient.

The relative importance of the normative component warrants some consideration in the development of intervention and prevention strategies. It is suggested that those referents who are important in the decision-making process regarding driving after drinking should be identified and included in interventions.
In summary, the results of this study show that the Theory of Planned Behavior may be useful in the prediction of adolescent drinking and driving behavior, and the identification and use of salient beliefs and referents for this behavior should have a powerful impact on the development of more effective intervention and prevention strategies.

Acknowledgments

This research was funded by PHS Research Grant R29-AA07749 from the National Institute on Alcohol Abuse and Alcoholism. The author would like to thank Cathie Hw, Research Assistant, for her fine work in this project.

References


