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Parenting Style, Religiosity, Peers, and Adolescent Heavy Drinking*

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ABSTRACT. Objective: The purpose of this research was to examine whether authoritative, authoritarian, indulgent, and neglectful parenting styles were associated with adolescent alcohol use and heavy drinking, after controlling for peer use, religiosity, and other relevant variables. **Method:** Structural equation modeling was used to estimate direct and indirect associations of parenting style with alcohol use and heavy drinking among 4,983 adolescents in Grades 7-12. **Results:** Adolescents whose parents were authoritative were less likely to drink heavily than adolescents from the other three parenting styles, and they were less likely to have close friends who used alcohol. In addition, religiosity

was negatively associated with heavy drinking after controlling for other relevant variables. **Conclusions:** Authoritative parenting appears to have both direct and indirect associations with the risk of heavy drinking among adolescents. Authoritative parenting, where monitoring and support are above average, might help deter adolescents from heavy alcohol use, even when adolescents have friends who drink. In addition, the data suggest that the adolescent's choice of friends may be an intervening variable that helps explain the negative association between authoritative parenting and adolescent heavy drinking. (*J. Stud. Alcohol Drugs*, 71, 539-543, 2010)

IN 2008, 43% OF HIGH SCHOOL SENIORS had drunk alcohol during the past month, and 28% reported having been drunk (Johnston et al., 2009). A number of researchers have observed that parenting practices such as support and monitoring tend to deter adolescent alcohol use (King and Chassin, 2004; Patock-Peckham and Morgan-Lopez, 2006, 2009), whereas others have found that parenting practices have little impact after controlling for peer influences (Bahr et al., 1998; Dubow et al., 2008). Similarly, the research on religiosity and adolescent alcohol use has produced inconsistent results (Bahr and Hoffmann, 2008). The purpose of this research was to overcome limitations of existing research by examining the extent to which four different parenting styles, religiosity, and peers are associated with adolescent alcohol use and heavy drinking.

Parenting style

Based on combined levels of support and control, Baumrind (1967, 1991) and Maccoby and Martin (1983) identified four parenting types: authoritative, authoritarian, indulgent, and neglectful. Authoritative parents tend to be high on support (warmth, nurturance) and control (monitoring, discipline). They are demanding but also responsive and warm. Authoritarian parents tend to be high on control but low on

support. Their assertions and demands are not balanced with praise and warmth. Indulgent parents tend to be warm and supportive but provide relatively low levels of monitoring and direction. Finally, neglectful parents are low in both direction and warmth.

Children with authoritative parents tend to be higher on various dimensions of social competence than children who experience the other three parenting types (Gray and Steinberg, 1999; Steinberg et al., 1994). Although a number of scholars have studied how support and control influence alcohol use, most have not examined both parenting styles and peer influences simultaneously (Barnow et al., 2002; King and Chassin, 2004; Patock-Peckham and Morgan-Lopez, 2006, 2009; van der Vorst et al., 2006; Walls et al., 2009).

Adolescent religiosity and alcohol use

There is a growing body of research showing that adolescents who attend religious services regularly are somewhat less likely to use various drugs than those who do not (Bahr and Hoffmann, 2008; Wallace et al., 2007). However, there continues to be debate about the role of religiosity in the etiology of adolescent alcohol and drug use (Baier and Wright, 2001; Wallace et al., 2007). A key issue is whether individual religious involvement has an association with adolescent alcohol use after controlling for peer use and family characteristics (Walker et al., 2007).

Research objectives

The primary objective of this research was to use structural equation modeling to estimate the associations of par-

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enting style, religiosity, and peer alcohol use with adolescent alcohol use and heavy drinking. Our dependent variable was three levels of adolescent alcohol use: (a) no alcohol use, (b) alcohol use but no heavy drinking, and (c) heavy drinking. Because age, gender, race, parental education, and family structure have been found to be associated with adolescent alcohol use, each was included as a control variable.

Method

Sample

The data were from a multistage probability sample collected in an intermountain state in 1997 from 4,983 students in Grades 7-12. The final sample was 82% of the total number of students enrolled in the sample classrooms at the time of the survey. The respondents ranged from 12 to 19 years old, 51% were girls, and 71.5% lived with both of their parents. Thirteen percent lived in a single-parent home, 11% with the mother and 2% with the father. Eleven percent lived with one parent and a stepparent, 9% in a mother-stepfather home and 2% in a father-stepmother home. Forty-two percent of the fathers and 35% of the mothers had graduated from college, respectively. Eighty-seven percent indicated that they were White and not of Hispanic origin.

Measurement

We combined responses from two questions about past-month frequency of alcohol use and heavy drinking to create three categories of alcohol use: (a) no alcohol use, (b) alcohol use but no heavy drinking, and (c) heavy drinking. The question on heavy drinking asked how many times they had five or more alcoholic drinks in a row.

Parental support was the sum of three items about parental recognition and praise (range: 0-9, $\alpha = .85$). Parental control was the sum of five questions about parental monitoring and knowledge of the adolescent's activities (range: 0-15, $\alpha = .75$). Control and support were divided at the median to construct Baumrind's (1991) four parenting types. Those parents who were categorized as neglectful were low on both control and support, indulgent parents were low on control and high on support, and authoritarian parents were high on control and low on support; authoritative parents were high on both control and support.

Religiosity was the mean of two questions on frequency of religious service attendance and importance of religion (γ coefficient of association = .82). To measure peer alcohol use, students were asked how many of their four best friends had drunk alcohol during the past year. The control variables included age, gender, race, parental education, and family structure. Parental education was measured using the highest level of education by a parent and was coded on a scale from 0 to 5 (4 = *completed college* and 5 = *graduate or profes-*

TABLE 1. Descriptive statistics

Variable	M or %	SE	Min.	Max.
Alcohol use, past 30 days				
No alcohol use	80.4%	1.3		
Alcohol use, no heavy drinking	10.4%	0.7		
Heavy drinking	9.2%	0.9		
Parenting style				
Authoritative	29.0%	1.1		
Authoritarian	12.7%	0.7		
Indulgent	18.6%	0.8		
Neglectful	39.7%	1.4		
Religiosity of youth ^a	4.4	0.7	0	6
Peer alcohol use ^b	1.14	0.7	0	4
Control variables				
Age	15.07	0.16	12	19
Gender, male	49.1%	1.4	0	1
White vs. non-White	87.4%	1.2	0	1
Lives with two parents	71.5%	1.4	0	1
Parental education	3.54	0.44	0	5

Notes: All estimates are based on weighted data. The standard errors are adjusted for the multistage sampling design of the survey. Multiple imputation with five replications was used to adjust for missing values. The sample size is 4,983. ^aReligiosity reflects the mean of frequency of attendance and importance of religion; ^bpeer alcohol use = mean number of four best friends who drink.

sional school after college). Descriptive statistics based on weighted data for all variables are shown in Table 1.

Analysis

To compensate for any missing data, we used a random imputation process that resulted in five imputed data sets. The models were then estimated on these five data sets and summarized using standard procedures (Acock, 2005). To adjust for nesting of students within schools, we designated schools as clusters in the models. Sampling weights were used to compensate for oversampling of some groups.

Because heavy drinkers were a subset of alcohol users, it was not appropriate to analyze these two outcomes separately. Rather, we examined alcohol but no heavy use or heavy alcohol use simultaneously in a categorical structural equation model (SEM) with multinomial logistic regression (Hoffmann, 2004). The coefficients represented the log-odds of each outcome—alcohol use or heavy drinking—for each group versus the log-odds of no alcohol use. Because peer alcohol use was a continuous variable, we estimated it using a linear regression model within the full SEM. All coefficients are fully standardized to make comparisons across the implicit models easier.

We computed four different SEMs that allowed a combination of continuous and categorical variables with robust standard errors that were adjusted for the multistage sampling design of the survey (Finney and DiStefano, 2006; Yuan and Bentler, 2000). First, we estimated a model that included only the direct associations of the control variables with parenting style and religiosity, the direct associations of parenting style and religiosity with peer alcohol use, and

FIGURE 1. Model of parenting style, peer alcohol use, and adolescent alcohol use. All estimates are based on weighted data. The model is estimated with a maximum likelihood procedure that used the expectation-maximization algorithm with Monte Carlo integration (see Enders, 2001). Robust standard errors that are adjusted for the multistage design of the survey are used to estimate p values. Multiple imputation with five replications is used to adjust for missing values. The effects of the control variables are omitted from the model. The sample size is 4,983. ¹The coefficients predicting peer alcohol use are standardized linear regression coefficients; ²the coefficients predicting the two types of alcohol use are fully standardized log-odds ratios. * $p < .05$; ** $p < .01$.

the direct associations of peer alcohol use with heavy drinking. In the second model, we added the direct associations of parenting style and religiosity with heavy drinking. Third, we added the direct associations of the control variables with peer alcohol use and adolescent alcohol use. Fourth, we estimated a trimmed model that removed all nonsignificant control variable coefficients.

Results

Figure 1 provides the key results from the final SEMs (full results are available from the authors). When adolescents had close friends who used alcohol, they were significantly more likely to have used alcohol without heavy drinking than adolescents whose friends did not drink, and they were more likely to have participated in heavy drinking. It also appears that the associations were stronger for heavy

drinking than for alcohol use without heavy drinking (see Figure 1; fully standardized log-odds 0.559 vs. 0.386 [log-odds 1.137 vs. 0.635]; difference in coefficients: $p < .05$).

After controlling for peer and family variables, adolescents who reported religious involvement were less likely to have participated in alcohol use or heavy drinking than adolescents who reported less religious involvement (fully standardized log-odds -0.264 and -0.244, $p < .01$). The findings were similar regardless of the type of alcohol use. Religious youth also were significantly less likely to have friends who used alcohol than youth who were not as involved religiously (standardized coefficient = -0.339, $p < .01$).

Contrary to expectations, adolescents with authoritarian or indulgent parents did not have higher odds of alcohol use than adolescents with authoritative parents. However, adolescents from neglectful families (low support and low control) were more likely than adolescents from authoritative families

to have used alcohol without heavy drinking (fully standardized log-odds = 0.134, $p < .05$). As expected, adolescents from authoritative homes were significantly less likely than adolescents from the other three types to have participated in heavy drinking or to have close friends who used alcohol.

Discussion

A major finding of this study was that adolescents whose parents were authoritative were less likely to drink heavily than adolescents who experienced the other three parenting styles. We found that this result held after controlling for peer associations, religiousness, and several background variables.

Another important finding was that religiosity was negatively associated with general alcohol use and with heavy drinking. This finding is consistent with the hypothesis that religious involvement may be useful in deterring heavy drinking. Furthermore, the data suggest that the combination of parenting style and religiosity might help counter the influence of peers toward heavy alcohol use (Bahr and Hoffmann, 2008; Baier and Wright, 2001; Wallace et al., 2007).

There were three major limitations of our study. First, because the sample was cross sectional, we were not able to account for possible reciprocal relationships among parenting type, religiosity, peer use, and adolescent alcohol use. Although theory and other research indicate that the influences are in the causal direction proposed in our model, longitudinal data are needed to explore reciprocal paths among parenting styles, religiosity, peer alcohol use, and adolescent alcohol use.

Second, adolescent reports of parental support and control may not reflect the actual behavior of parents. However, adolescent perceptions of parental behavior appear to be as important in adolescent development as the actual behavior of parents (Gray and Steinberg, 1999).

Third, data limitations prevented us from examining the direct involvement of parents in promoting adolescent alcohol use. Other research has shown that the risk of adolescent alcohol use increases if parents use alcohol or have permissive attitudes toward alcohol and drug use (Hawkins et al., 1992). It would be helpful to explore how parental attitudes and behavior toward alcohol use influence adolescent alcohol use within the context of differing parenting styles.

In conclusion, authoritative parents tend to be highly demanding and highly responsive. They monitor their children closely and provide high levels of support and warmth. Our data suggest that peer encouragement to drink might have less impact when parents are both highly supportive and highly attentive. Our findings are consistent with the hypothesis that authoritative parenting may help diminish the likelihood that adolescents will choose risky forms of use such as heavy drinking, *even when they have friends who*

use alcohol or other drugs. These findings have practical implications regarding what parents can do to help insulate their children from peer pressures that encourage heavy drinking. More generally, they suggest that parents can be a significant influence on the risk-taking behaviors of their adolescents.

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