

Effects of Alcohol Intoxication on Parenting Behavior in Interactions With Child Confederates Exhibiting Normal or Deviant Behaviors

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Experimental analogue methods were used to study how acute alcohol intoxication in parents influences their perceptions of and reactions to child behaviors, as well as their strategies for management of those behaviors. All participating parents had a grade school-aged son, but in half the cases this target child had a diagnosed externalizing disorder, whereas for the remaining half neither the target son nor any other offspring of the parents evidenced any psychopathology. Equal numbers of married fathers, married mothers, and single mothers from each of these groups received either alcoholic or nonalcoholic beverages prior to videotaped interactions with male child confederates who, depending on condition, enacted behaviors characteristic of either normal boys or boys with attention deficit hyperactivity/conduct/oppositional defiant disorders (ADHD/CD/ODD). Results indicated that intoxicated parents rated their ADHD/CD/ODD child partners as less deviant than did sober parents. Alcohol intoxication caused all participant groups to exhibit less attention and productive work and more commands, indulgences, and off-task talk in the interactions. Implications for better understanding of the role of psychosocial factors in the correlation between adult drinking problems and childhood behavior disorders are discussed.

KEY WORDS: Alcohol; alcoholism; children of alcoholics; family interaction; attention-deficit hyperactivity disorder; oppositional defiant disorder; conduct disorder.

Given what is known about the deleterious effect of alcohol on a host of behaviors far less complicated than child management, common sense dictates that intoxication must compromise performance of the parental role. Moreover, to the extent that dysfunctional parenting is held to exacerbate, if not produce, behavioral problems in children (e.g., Patterson, 1982), exposure to drinking parents might be expected to contribute something to the difficulties of individuals who grow up under their influence. Although admittedly oversimplified, these premises are compatible with many popular and professional accounts

seeking to explain the experience and adjustment of children from family situations in which alcohol is misused by parents (e.g., Cork, 1969; Woititz, 1983). Yet, a recent review of the literature on substance abuse and parenting (Mayes, 1995) indicated that the type of parenting impairment, if any, attributable to alcohol or other drug abuse has not been adequately specified in research conducted to date. The present experiment, part of a broader empirical evaluation of assumed relations between parental drinking and child behavior disorders (Pelham & Lang, 1993), was undertaken to determine the specific effects of acute alcohol intoxication on parenting behavior in nonalcoholic individuals. This represents one critical step toward better understanding the complexities involved in the drinking–parenting nexus.

Many of the studies relevant to the role of alcohol in adult–child interactions have focused on the correlation between parental drinking problems and offspring adjustment difficulties, including diagnosed child psychopathology and psychosocial disorders occurring later in life.

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Reviews of research on both young and adult children of alcoholics (COAs; e.g., Black, Bucky, & Wilder-Padilla, 1986; Sher, 1991; West & Prinz, 1987) have suggested that maladaptive drinking by parents is indeed associated with an elevated risk for a wide range of behavioral, emotional, and personality problems in the children they rear. There is also evidence from a number of studies of the home environments of COAs and nonCOAs (e.g., Reich, Earls, & Powell, 1988) to indicate that the former are characterized by more conflict, overt abuse, and generally poor parental functioning than the latter. From these two lines of research, it is tempting to infer that the problems of COAs are a direct consequence of interactions with intoxicated parents, and some have further suggested that the more severe the parental drinking problem and the greater the child's exposure to it, the more likely the COA is to exhibit a diagnosable psychiatric disorder (e.g., Woodside, 1988).

Despite an apparent consensus on the potential difficulties of COAs, however, there are reasons to be circumspect in drawing conclusions about the magnitude and specificity of their problems. For instance, several investigations have shown that although COAs tend to score lower than nonCOAs on emotional adjustment, cognitive and behavioral performances, and personality inventories, the differences are often small, and most COAs still fall within the normal range (e.g., Bennett, Wolin, & Reiss, 1988; Knowles & Schroeder, 1990). Further, considering data from comparative studies of alcoholic, depressive, and nondistressed families, it can be argued that parental drinking per se might play only an incidental or nonspecific role in whatever problems COAs do suffer. Such investigations (e.g., Jacob & Leonard, 1986) have found that children of depressed, nonalcoholic fathers had as many symptoms of psychological disturbance as children of nondepressed, alcoholic fathers, with both showing somewhat higher problem rates than children in nondistressed families. Indeed, there is reason to believe that many different kinds of family stressors are associated with dysfunctional parent-child interactions and disturbed child behavior (e.g., Webster-Stratton, 1990). Taken together these results could call into question both the clinical significance and the uniqueness of COA difficulties.

Even to the extent that COAs have been shown to experience an abnormally high rate of problems, one must be cognizant of the fact that virtually all of the data suggesting a specific, negative impact of parental drinking on children are correlational and that the relevant studies are often plagued by third-variable problems that make interpretation difficult. Thus, many questions about the mechanisms relating parental drinking and alcoholism to problematic family interactions and behavior disorders in children remain (cf. Burk & Sher, 1988).

To date, only two partially controlled experiments have touched on the question of how acute adult alcohol intoxication influences parent-child interactions, and neither has demonstrated particularly remarkable alcohol effects. The more recent and by far more extensive study (Jacob, Krahn, & Leonard, 1991) included 121 families with roughly equal numbers containing an alcoholic, depressive, or normal father. Various combinations of family members (fathers, mothers, and eldest adolescent children) were observed in loosely structured problem solving discussions after the parents had an opportunity for ad libitum consumption of alcoholic or nonalcoholic beverages. As in the earlier, preliminary study (Jacob, Ritchey, Critkovic, & Blane, 1981), few effects due either to parental drinking or its interaction with family type were noted. There was some evidence, but only in triadic (father-mother-adolescent) interaction groupings, that mothers were less inclined to engage in problem solving in the alcohol-use conditions. In these same situations, fathers showed greater negativity, yet more problem solving when drinking. Moreover, these limited "alcohol-related effects did not . . . differentiate our three groups of families" (Jacob *et al.*, 1991, p. 180). The main finding of this study was simply that nondistressed (normal) families were generally more congenial and more oriented toward adaptive problem solving than distressed (i.e., alcoholic and depressive) families—especially when the interactions involved fathers.

Although pertinent to the influence of intoxication on parent-child interactions, it should be noted that the two experiments described above were not designed primarily to examine the question of how acute episodes of alcohol consumption affect parenting behavior. Rather, their focus was on the identification of characteristic interactional patterns within family systems that include alcoholic versus nonalcoholic fathers. Accordingly, alcohol was made available to parents on an ad lib basis mainly because of its potential to precipitate or sharpen such contrasts. This paradigm, although useful in detecting effects due to family type, resulted in considerable variance in individual drinking as well as marked and systematic differences in alcohol consumption as a function of both parent gender and also family type. These potential confounds reduce confidence in the apparent absence of important effects of acute alcohol intoxication on parenting behavior and suggest the need for greater control over the drinking variable.

Another feature of the approach taken by Jacob *et al.* (1991) that limits its applicability to our questions of how acute alcohol intoxication affects parenting behavior and how parental drinking might be related to child psychopathology is inherent in the characteristics of the families these investigators chose to study. In order to achieve conceptual clarity and maintain appropriate control over the

variables of most interest to them, only intact families with no member currently in treatment and no parental psychopathology other than the targeted paternal alcoholism or depression were selected. Jacob *et al.* (1991) acknowledged the resulting constraints on overall sample representativeness, but of particular concern for present purposes was the fact that their procedure also yielded families whose children apparently did not evidence significant psychiatric or behavioral problems. It could well be that the deleterious effects of alcohol intoxication on parenting behavior is best revealed in interactions involving children whose behavioral problems are severe enough to test the limits of parenting skill. This argues for research that includes families with children having definite, distressing, and difficult to manage behavior problems. Because externalizing disorders of childhood—attention deficit hyperactivity disorder (ADHD), conduct disorder (CD), and oppositional defiant disorder (ODD)—present just such problems (e.g., Mash & Johnston, 1990) and are also associated with parental risk of alcoholism as well as elevated risk of future difficulties with alcohol in the children themselves (e.g., Pihl, Peterson, & Finn, 1990), families containing such children might provide a good alternative to alcoholic families for examination of the role of alcohol in parent-child interactions.

Finally, although studies of parents' interactions with their own children are important to the description of system dysfunctions characteristic of families containing an alcoholic adult, they can do little to illuminate the etiology of the patterns observed. This is because even at the dyadic level, all uncontrolled interactions are reciprocal exchanges, with each action and reaction sequence conditional on what has gone before. Consequently, especially in families where extensive interaction histories result in strong interpersonal expectations and habits, it is impossible to determine which participant behaviors are causal in any given interchange simply by observing dynamic interactions. The application of alternative strategies that might lead to more definitive answers to critical questions of causality is clearly needed.

The present experiment was designed specifically to test the hypothesis that acute alcohol intoxication in parents produces a decline in the appropriateness and likely effectiveness of the child management skills they exhibit. We expected drinking parents to evidence characteristic behaviors and strategies associated with poor child outcomes, especially conduct disorder (see Chamberlain & Patterson, 1995). Prominent among these are diminished attention and monitoring, greater inconsistency and non-contingency in discipline, and an inclination to be more authoritarian and commanding. Our methods involved a variation of the "functional pairs" experimental analogue

approach (Keller, 1981), in which we had confederate boys enact carefully scripted behavioral roles in interactions with adult partners who had previously consumed either alcoholic or nonalcoholic beverages. The child confederates were intensively trained in roles corresponding to explicit manipulations of child behavior (normal child vs. externalizing behavior problem child), thereby permitting a truly experimental evaluation of how adult drinking influences reactions to specific child behaviors.

In addition to the manipulation of parental drinking and confederate child behavior, several other independent variables with the potential to moderate alcohol and child behavior effects on parenting behavior were examined. These included the problem status of the parents' target offspring sons as well as parents' gender and marital status. Although it could be argued, for example, that parents—and especially fathers—of boys with externalizing disorders might be particularly vulnerable to alcohol effects given their elevated risk for drinking problems, no strong *a priori* hypotheses were formulated for the family variables. Instead, the study was designed primarily to examine specific changes in child management behaviors that could be attributed to parental intoxication. Different child and parent characteristics were included to increase both overall generalizability and to provide opportunities to explore relationships to be pursued in future research. Parents whose families contained children with externalizing disorders were specifically included because that is where the child behavior-adult drinking problem link is most salient (West & Prinz, 1987).

METHOD⁵

Participants

A total of 192 parents of 5- to 12-year-old boys were studied. Target sons for half the participants had to be diagnosed as having one or more externalizing disorders of childhood: ADHD, CD, or ODD. These participants were referred to as "parents of deviant children" (PDC). All remaining participants were "parents of normal children" (PNC), so designated because neither their target son nor any of their other offspring exhibited diagnosable symptoms of any psychopathology. Data used in categorizing parents as PDC or PNC based on their offspring

⁵Because of the potentially sensitive nature of this experiment, it may be worth noting that its human participants protections were approved by the Institutional Review Boards of two universities (Florida State University and the University of Pittsburgh—Western Psychiatric Institute and Clinic), as well as by reviewers for the funding agency (National Institute on Alcohol Abuse and Alcoholism).

included the child's clinical status and psychiatric diagnosis, as well as direct interviews and ratings on relevant, standard parent and teacher rating scales. Among the scales used were the Swanson, Nolan, and Pelham (SNAP) Rating Scale (Atkins, Pelham, & Licht, 1985), the Iowa-Connors Teacher Rating Scale (Loney & Milich, 1982), the Abbreviated Connors Rating Scale (Goyette, Connors, & Ulrich, 1978), and the Child Behavior Checklist (Achenbach, 1978). Most deviant boys were active or former child psychiatry patients at Western Psychiatric Institute and Clinic, but final diagnoses were made by William E. Pelham based on all available information, including that in the children's clinical records. Prospective PNC participants were recruited through newspaper ads that made no mention of alcohol in seeking "parents of normal grade school boys for a study of adult-child interactions." Phone interviews were used to explain the research and screen for potential psychopathology in targets and their siblings. All parents were fully apprised of the fact that the study was an evaluation of the effects of alcohol on parenting behavior and that they may be asked to consume alcoholic beverages as part of the procedure. Offspring of PNC participants had to score within the normal range on all standard parent and teacher rating scales (see above) and also on data collected in interviews with parents. Any questionable cases were followed up with more extensive assessments as appropriate. Within each PDC and PNC offspring type group were equal numbers of the following parent types: married fathers (MF), married mothers (MM), and single mothers (SM).⁶

All participants completed an extensive battery of self-report instruments addressing their (a) demographic characteristics; (b) alcohol-related habits, expectancies, and histories; (c) personality and emotional traits and symptoms; (d) life stresses; and (e) family environments and, if applicable, marital satisfaction. Group means and standard deviations for the most descriptive individual difference measures of parents are presented in Table I, along with the results of the relevant 2 (offspring type) \times 3 (parent type) analyses of variance (ANOVAs) for each. Not unexpectedly, these analyses revealed a number of significant differences across parent groups, so their potential influence on results was subsequently assessed by examining their impact as covariates.

Every parent recruited had to report at least monthly alcohol consumption and recent experience with the dose to be administered in this experiment. In addition, no person reporting current drinking problems or attempting to curtail alcohol use for any reason was permitted to partic-

ipate, and individuals with medical or psychiatric conditions that might preclude safe drinking were also excluded. During a final phone contact, participants were instructed to refrain from eating for 6 hours and from consuming any alcohol or using any drugs for 24 hours prior to scheduled appointments. Each parent participant received a \$25 payment, as well as free babysitting and transportation to and from the experimental site.

Procedure

Introduction and Baseline Measures. Once at the lab site, participants signed consent forms and received instructions and an initial breath test for blood-alcohol level (BAL) using a BAC Verifier (Verax Corp., Fairport, NY). Female participants were evaluated for pregnancy by means of simple urine-sample screening test (ICON II HGC by Hybrtech of San Diego, CA). None had to be excluded on this basis. A baseline assessment of affective state was also conducted using the Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965).

Beverage Manipulation. Half of the participants in each parent selection group (i.e., offspring type and parent type) were randomly assigned to the alcohol condition. They received beverages consisting of one part pure ethyl alcohol mixed with five parts orange juice. The dose (.95 ml of ethanol per kg of body weight for men and .84 ml/kg for women to adjust for probable proportion of body fat as a function of gender) was sufficient to produce a theoretical maximum BAL of 0.075% (i.e., 0.075g of ethanol/100 ml of blood) within one hour. As a practical reference, this dose is equivalent to approximately 2.5 standard "drinks" (i.e., three 12 oz beers, three 5 oz glasses of wine, or three straight or mixed beverages, each containing a 1.5 oz "shot" of 80-proof distilled spirits) consumed by an average-size adult. Such doses reliably produce subjective intoxication and impaired psychomotor and cognitive performance, especially when consumed rapidly. The remaining participants, assigned to the no-alcohol condition, received an equivalent volume of orange juice only. All participants were required to consume all of their assigned drinks in a 20-minute drinking period.

Confederate Manipulation. Immediately after the drinking period and an additional 20-minute absorption period, all parents completed a second BAL test and mood state assessment (MAACL2) and received instructions for the interaction from a second experimenter kept blind to participant beverage condition. Participants were prepared for what was described as an impromptu interaction with a young boy from either a local school or treatment program for difficult children. The particular individual with whom they were paired was said to have been randomly

⁶The relatively small number of single men with custody of their children made it impossible to include them as a parent-type group.

Table I. Group Means, Standard Deviations, and Differences for Measures Describing the Parent Sample

Measure	Parents of normal children			Parents of deviant children			Differences	
	Married fathers (n = 32)	Married mothers (n = 32)	Single mothers (n = 32)	Married fathers (n = 32)	Married mothers (n = 32)	Single mothers (n = 32)	Offspring type	Parent type
Age (years)	36.4 (5.7)	35.0 (4.6)	33.4 (3.9)	36.5 (6.1)	34.7 (4.1)	32.3 (4.8)	ns	***
Family SES ^a	50.7 (9.6)	50.7 (9.6)	45.6 (13.7)	37.1 (13.1)	37.1 (13.1)	25.7 (13.8)	***	***
Drinks/occ ^b	2.3 (1.2)	1.8 (0.8)	2.3 (1.4)	3.6 (2.1)	2.6 (2.4)	3.4 (2.9)	***	ns
Drinks/week ^c	6.0 (8.1)	4.0 (5.6)	4.7 (6.2)	5.8 (6.1)	2.5 (4.3)	5.0 (9.8)	ns	ns
MAST ^d	2.7 (2.8)	2.1 (2.6)	2.0 (2.4)	4.4 (5.3)	2.5 (2.7)	3.0 (5.4)	*	ns
MAC ^e	20.3 (3.8)	19.8 (3.4)	21.4 (3.8)	22.3 (4.5)	21.3 (3.9)	23.6 (4.4)	***	*
So ^f	34.8 (4.2)	37.0 (3.7)	33.3 (4.9)	33.5 (5.3)	36.0 (5.1)	33.5 (4.4)	ns	**
LES-neg ^g	4.3 (4.5)	4.7 (5.9)	9.9 (9.8)	7.1 (5.7)	8.6 (8.7)	9.5 (7.6)	ns	**
BDI ^h	4.1 (3.7)	3.8 (3.8)	6.7 (6.9)	5.5 (6.2)	8.6 (7.5)	8.5 (7.5)	**	*
FES ⁱ								
Cohesion	7.3 (1.7)	7.4 (1.4)	7.4 (2.3)	6.2 (2.6)	6.8 (2.1)	6.8 (1.9)	**	ns
Express	6.0 (1.8)	6.8 (1.7)	6.5 (2.2)	4.8 (1.9)	5.4 (2.1)	6.0 (1.5)	**	*
Conflict	3.1 (2.2)	3.2 (2.1)	4.1 (2.0)	4.1 (2.5)	4.1 (2.4)	3.8 (2.4)	ns	ns
Indep	6.1 (1.5)	6.0 (1.5)	6.6 (1.5)	5.7 (1.4)	5.8 (1.4)	6.7 (1.4)	ns	**
Achieve	5.6 (1.6)	5.4 (1.5)	5.4 (1.8)	5.5 (2.1)	5.3 (1.7)	5.9 (1.3)	ns	ns
IntCult	6.0 (1.9)	6.2 (1.7)	7.0 (1.8)	4.7 (2.1)	4.5 (2.3)	6.1 (1.9)	***	***
ActRec	5.2 (2.0)	5.5 (1.9)	5.9 (2.2)	4.8 (2.1)	4.6 (2.4)	5.3 (2.2)	*	ns
MorRel	5.1 (2.6)	5.1 (2.5)	5.3 (2.3)	6.0 (1.8)	5.8 (1.7)	6.4 (1.9)	**	ns
Organiz	4.9 (2.0)	5.9 (2.0)	5.6 (2.1)	5.8 (2.6)	5.1 (2.4)	6.0 (2.0)	ns	ns
Control	4.9 (1.8)	5.3 (1.6)	5.5 (1.7)	5.9 (1.6)	5.9 (1.2)	5.8 (1.5)	**	ns
L-W MAT ^j	103.6 (16.9)	107.6 (16.3)	—	104.6 (20.9)	100.1 (16.8)	—	ns	—

Note. Standard deviations are shown in parentheses. ^aSES = Socioeconomic status (Hollingshead, 1975). ^bDrinks/occ refers to the average number of drinks per drinking occasion in the last 12 months. A "drink" = an alcoholic beverage containing approximately 18 ml of ethanol (standard 12 oz beer, 5 oz wine, or 1.5 oz distilled spirits drink). ^cDrinks/week refers to the total number of "drinks" (as defined above) consumed in an average week over the last 12 months. ^dMAST = Michigan Alcoholism Screening Test (Selzer, 1971). ^eMAC = MacAndrew special scale (MacAndrew, 1965) of the Minnesota Multiphasic Personality Inventory. ^fSo = Socialization scale of the California Psychological Inventory (Gough, 1960). ^gLES-neg. = negative subscale of the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978). ^hBDI = Beck Depression Inventory (Beck, 1972). ⁱFES = Family Environment Scale-Form R (Moos, 1974), which contains the 10 subscales identified or abbreviated in Table I: Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Religious Emphasis, Organization, and Control. ^jL-W MAT = Locke-Wallace Marital Adjustment Test (Locke & Wallace, 1959).

* $p < .05$. ** $p < .01$. *** $p < .001$.

assigned. They were instructed to try to think of the boy as their own son and to apply their usual strategies in interacting with and managing the boy as the situation required. Any use of physical force or other potentially abusive tactics to gain compliance was expressly prohibited, and participants were reminded that they would be observed and videotaped.

Each of these interactions had four distinct segments, selected to represent common classes of parent-child interchanges that might occur in the home (see Pelham *et al.*, 1997, for details.). Briefly, these included (a) a 5-minute "cooperative task" in which each person controlled one knob of an Etch-A-Sketch while the pair tried to trace paths through transparencies of Porteus mazes that had been laid over the screen, (b) a 7-minute "parallel task" in which the parent tried to balance a checkbook while supervising the child's independent efforts to complete an

arithmetic homework sheet, (c) a 5-minute "free play" period in which parents were to use toys and materials in the room to try to engage the boy, and (d) a 3-minute "clean up" period in which the adult was to oversee, but not assist in, the child's restoration of the room to its original condition.

Unbeknownst to the parents, the 9- to 12-year-old boys with whom they were paired were, in fact, rigorously trained child confederates who enacted carefully scripted roles. For half of the participants in each condition, the child actors behaved in a very normal, friendly, and cooperative manner. For the other half, the boys exhibited impulsive, inattentive, overactive, disruptive, noncompliant, and defiant behaviors characteristic of an ADHD/CD/ODD child. Eight different confederates were used, and each interacted with an equal number of parents in every experimental condition.

All interactions occurred in a large "family room" area equipped with essential furniture, stocked with toys and games, and subject to observation and videotaping through a one-way mirror. The general setting and tasks used have been used widely in previous investigations of interactions between ADHD/CD/ODD children and their parents (e.g., Barkley, Karlsson, Strzelecki, & Murphy, 1984; Johnston & Pelham, 1990).

Postinteraction Measures. At the conclusion of the interaction, each parent took a third BAL test and a final mood measure (MAACL3). Then, they completed a Child Behavior Rating Scale (CBRS) on which they reported their impressions of the child with whom they had interacted. The CBRS consisted of 24 seven-point Likert items adapted from the Behavior Problem Checklist (Quay & Peterson, 1983), with 12 CD scale items and 12 items from the combined Attention Problem/Immaturity/Motor Excess scales, describing behaviors scripted to occur in the experimental interactions. Scores could range from 0 to 144, with higher scores reflecting greater deviance. Parents used an additional, similar 7-point scale to rate the overall pleasantness or unpleasantness of the interaction. Participants were thoroughly debriefed before being transported home. Those who had received alcohol were detained until their BALs were at 0.04% or less and declining on two successive tests.

RESULTS

Experimental Design

The overall experimental design utilized in data analysis was a 2 (offspring type: PDC vs. PNC) \times 3 (parent type: MF vs. MM vs. SM) \times 2 (beverage: alcoholic vs. nonalcoholic) \times 2 (confederate: deviant vs. normal). The two categories of key dependent measures were (a) manipulation checks, including parents' perceptions and affective reactions to the beverage and confederate manipulations; and (b) parent behavior scores derived from coding of videotapes of the adult-child interactions. The possible moderating effect of any significant group difference variable (see Table I) was evaluated by including it as a covariate in each analysis. None of the covariates altered the basic pattern of results, so to simplify presentation they are not included here.

Manipulation Checks and Measures of Distress

The effect of the beverage manipulation was considered first. A 2 (offspring type) \times 3 (parent type) \times 2

(beverage) multivariate analysis of variance (MANOVA) was conducted on BAL measures taken just before and immediately after the adult-child interactions, with time of measurement as a repeated-measures variate. It indicated no significant effect for any variable other than the beverage manipulation, $F(1, 168) = 695.17, p < .001$. A mean BAL of 0.059% ($SD = 0.011$), averaged across the two postdrinking tests, was attained by participants in the alcohol condition. The BALs for all other participants were zero.

Next, the accuracy of confederate role enactment was assessed. Two independent observers, who were not advised of parents' offspring type, marital status, or beverage condition, compared videotaped interaction performances of all confederates with a detailed checklist of specific behaviors called for in the scripts. An overall accuracy rate of 87.3% (interrater reliability = .96) was obtained, and a 2 (offspring type) \times 3 (parent type) \times 2 (beverage) ANOVA conducted on the accuracy scores indicated no significant effects due to these variables. Because of concern that confederates might alter the manner of their role enactment if they perceived signs of parental intoxication, all of the confederates' performances were also subjected to evaluation by an additional rater, again uninformed as to parent selection or beverage treatment condition. He rated the behavior of the confederates using the same CBRS instrument that parents completed. Another ANOVA, analogous to the one described above, was conducted on these ratings and yielded no significant results.

The effectiveness of the confederate manipulation was examined using CBRS scores representing parents' judgments about the presence of ADHD/CD/ODD behaviors in the child with whom they had interacted. These ratings were analyzed in a 2 (offspring type) \times 3 (parent type) \times 2 (beverage) \times 2 (confederate) ANOVA. Results showed that boys in the deviant confederate role were given far higher scores ($M = 101.0, SD = 23.6$) than those assigned to confederates in the normal role ($M = 12.6, SD = 19.0$), $F(1, 168) = 958.16, p < .001$. There was also a main effect for offspring type on the CBRS, $F(1, 168) = 23.82, p < .001$, such that parents who themselves had ADHD/CD/ODD sons saw less deviance in the confederates ($M = 49.8, SD = 46.6$) than did parents with only normal children ($M = 63.8, SD = 50.9$). Two interaction effects were also significant for the CBRS, including a Beverage \times Confederate interaction, $F(1, 168) = 6.15, p < .05$. Means comparisons indicated that intoxicated participants saw less ADHD/CD/ODD behavior in deviant confederates than did sober participants, $t(95) = 3.09$, ($M_s = 94.7$ and 107.2 , respectively, with corresponding SD s of 23.0 and 22.4), whereas beverage had a negligible effect on ratings of the normal confederate, $t(95) = .04$, ($M = 13.4$,

$SD = 23.5$ for alcohol and $M = 11.8$, $SD = 23.2$ for no-alcohol parents). The pattern of means in the Beverage \times Parent Type interaction, $F(2, 168) = 3.12$, $p < .05$, further suggested that alcohol reduced the deviance ratings given by married mothers and married fathers, but not single mothers.

Parents' affective reactions to the interactions provided another index of the impact of the beverage and confederate manipulations on the various parent groups. A $2 \times 3 \times 2 \times 2$ ANOVA analogous to that used for CBRs scores was applied to the single, 0–6 rating parents made of pleasantness–unpleasantness of their interaction experience. Interactions with deviant confederates were judged to be considerably more unpleasant ($M = 3.4$, $SD = 1.7$) than those with normal confederates ($M = 0.3$, $SD = 0.9$), $F(1, 168) = 266.79$, $p < .001$. Parents of normal offspring also found the interactions to be generally more unpleasant ($M = 2.2$, $SD = 2.1$) than did parents of ADHD/CD/ODD sons ($M = 1.6$, $SD = 1.9$), $F(1, 168) = 10.11$, $p < .01$. No beverage manipulation or parent type effects and no interactions were observed for this measure.

Finally, participants' broader affective reactions to the experimental manipulations were evaluated using the three MAACL assessments of mood state occurring at baseline (MAACL1), after drinking but before the interaction (MAACL2), and after the interaction (MAACL3). Separate 2 (offspring type) $\times 3$ (parent type) ANOVAs conducted for each subscale of the baseline MAACL1, namely Anxiety (A), Depression (D), and Hostility (H), showed that there were no initial differences across parent groups for any of the subscales.

Next, three separate 2 (offspring type) $\times 3$ (parent type) $\times 2$ (beverage) $\times 2$ (confederate) repeated measures analyses of covariance (ANCOVAs) were run to examine the impact of the beverage and confederate manipulations on changes in parental mood. MAACL1 scores for each subscale were used as covariates in the repeated measures analysis of corresponding subscale scores on MAACL2 and MAACL3 administrations. A significant Confederates \times Repeated Measure interaction was evident in all of these analyses: $F(1, 168) = 14.61$, $p < .001$, for A; $F(1, 168) = 30.39$, $p < .001$, for D; and $F(1, 168) = 12.89$, $p < .001$, for H. For each subscale, only the parents exposed to the deviant confederate showed a marked increase in negative affect from the preinteraction MAACL2 to the postinteraction MAACL3. Adjusted mean scores for parents in the deviant confederate condition increased from $A = 6.0$ ($SD = 2.6$), $D = 12.8$ ($SD = 4.3$), and $H = 7.4$ ($SD = 2.5$) before the interaction to $A = 7.5$ ($SD = 3.2$), $D = 15.0$ ($SD = 5.0$), and $H = 8.7$ ($SD = 2.7$) after it. In contrast, adjusted mean mood scores of parents in the nor-

mal confederate condition changed little as a function of the interaction: $A = 5.7$ ($SD = 2.3$), $D = 12.7$ ($SD = 4.0$), and $H = 7.0$ ($SD = 2.4$) before and $A = 5.6$ ($SD = 2.4$), $D = 12.1$ ($SD = 3.9$), and $H = 7.0$ ($SD = 2.2$) after.

Somewhat surprisingly, alcohol did not have a significant effect on these measures of parents' affective response to the confederates. Indeed, the only other effect detected in any of the MAACL analyses was a three-way Offspring Type \times Parent Type \times Beverage interaction, $F(2, 167) = 4.85$, $p < .01$. Although relatively unimportant for present purposes, the complicated pattern of means associated with this effect suggested that the anxiety of mothers of deviant offspring was diminished by alcohol, whereas for mothers of normal boys it was increased by drinking. Moreover, these effects appeared to be greater among married than single women. Fathers' anxiety scores were minimally affected by the variables involved in this interaction.

Coded Parent Behaviors

The most critical dependent measures were derived from videotapes of the adult–child interactions using the Family Interaction Coding System (FICS; Patterson, 1982). In the FICS, behaviors representing a wide variety of exchanges common among family members are coded, sampling the target person every 6 s, with the potential to note partner responses as well. A team of coders was given extensive training on pilot tapes and continued to practice until an overall average act-by-act agreement rate of at least 70% was achieved for the targeted parent behaviors. Tapes were then assigned and coded in random order, with raters kept blind to parent's beverage and offspring type conditions. Coding reliability was assessed by having two of every five tapes, equally representative of all experimental conditions, coded by two independent raters who were unaware of which cases were double-coded. Interrater reliability was evaluated in two ways: (a) pattern similarity was indexed by the correlation (r_{xx}) between raters across participants for the total frequency of occurrence of behaviors coded within each category, and (b) degree of absolute agreement was indexed by mean difference (M_{diff}) between raters across participants for the total frequency of occurrence of behaviors coded within each category. Categories were not used in the final multivariate analyses if the behaviors they represented were exhibited by parents an average of less than once per session or if interrater reliability correlation coefficients for a particular category were less than .70. The eight categories meeting these criteria and subsequently used in the final analyses represented 95% of all parent behaviors coded from the

interaction tapes.⁷ A list of these categories, together with a brief description and interrater reliability data for each, is provided in Table II.

The primary analysis for this experiment involved data from the coded adult behaviors described above. The eight category scores were used as variates in a 2 (offspring type) \times 3 (parent type) \times 2 (beverage) \times 2 (confederate) MANOVA.⁸ A conservative alpha level of $p < .01$ was set for all tests of the coded results because the relatively large number of measures per case and the execution of multiple correlated tests in this rather complex design introduced significant risk of spurious results. Naturally, this compromised somewhat the statistical power available, particularly to detect higher-order interactions, but the cost

⁷The limited number of FICS categories ultimately used in the final analyses probably reflects the fact that this system was devised for coding behavioral observations of entire families, and hence includes many categories designed to capture child behavior (e.g., cry and self-stimulation). Our focus on parenting behavior resulted in minimal use of many of these codes.

⁸Because married participants were recruited as couples rather than sampled randomly as individuals from the population of married people, consideration was given to the possibility that parenting behaviors might be correlated within marital dyads. To test for dyad effects and also to explore gender effects unconfounded by marital status, data for married participants were subjected to secondary analysis. Separate ANOVAs were conducted for each reliably coded adult behavior category using a 2 (offspring type) \times 2 (beverage) \times 2 (confederate) \times 2 (gender) design, with gender nested within marital dyads. Separate between- and within-dyad error terms were calculated so the effects of gender and its interaction with other variables could be tested using the within-error term, whereas the independent main and interaction effects of offspring, beverage, and confederate were tested against the between-error term. Results from these analyses revealed that differences between the two types of error terms were consistently small and nonsignificant, indicating negligible dyad effects. Further, the pattern of results reported in the text for the entire sample was essentially replicated using only married parents, and observed gender effects were minimal. There was no significant main effect for gender, and the only interaction was a Gender \times Confederate effect, $F(1, 56) = 7.59, p < .01$, on the indulge measure of parenting behavior. In this interaction, married mothers were found to be substantially more indulgent with deviant confederates ($M = 4.94$) than with normal ones ($M = 0.34$), whereas married fathers showed a smaller difference ($M = 2.03$ and 0.84 for deviant and normal confederates, respectively).

It could be argued that the limited power of such nested analyses—especially given the conservative ($p < .01$) probability criterion used to protect against spurious results due to multiple tests—might have obscured some meaningful results. However, only three of the over 100 other effects tested in these secondary analyses of married parents would have attained significance at an alpha level of .05.

A supplementary analysis of specific marital status effects on parenting behavior, unconfounded by parent gender, was also undertaken. To do this, data from female participants only were considered in a 2 (offspring type) \times 2 (marital status) \times 2 (beverage) \times 2 (confederate) MANOVA, using the coded adult behaviors as variates. This approach yielded the same pattern of main effects found for the entire sample (i.e., no new main effects and no interactions with marital status were obtained).

was judged to be tolerable in light of the fact that the experiment's principal hypotheses involved main effects of alcohol, and the evaluation of other possible effects was generally exploratory.⁹

Findings from the key analyses are summarized in Table III. They indicated that the PNC group exhibited more approval and laughing, but less play than the PDC group. Type of parent (father, married mother, or single mother) had no significant effect on observed parent behavior. However, alcohol intoxication produced significantly less attention to the child and less on-task work with him, as well as more commands, indulgence, and off-task talk. Compared with normal-role confederate conditions, those involving ADHD/CD/ODD behaviors yielded more attention, commands, indulgence, and talk, but less laugh, play, and work from parent partners. There were no significant interactions among any of these variables.

DISCUSSION

Besides demonstrating that interactions with deviant (vs. normal) child confederates were experienced as unpleasant and produced significant increases in parental distress as indexed by changes in subjective anxiety, depression, and hostility, the results of this investigation provided new data suggesting how acute alcohol consumption might adversely affect adult effectiveness in managing children. Self-report measures revealed that intoxicated parents had an apparently diminished ability or inclination to perceive deviance in the boys with whom they interacted. Direct observations further indicated that participants who had received alcohol exhibited less functional attention, less consistent control strategies, and a generally reduced task orientation, relative to sober parents.

Many of the alcohol-induced changes observed in this study are similar to those often associated with reduced adequacy in child management (Chamberlain & Patterson, 1995). Although this general result was predictable, empirical verification of the presumed deleterious

⁹The sample size selected for this experiment was based on calculations indicating that statistical power of 0.80 was available to detect a medium-sized main effect within a multifactorial ANOVA with alpha set at 0.01 (Borenstein & Cohen, 1988). For two- and three-way ANOVA interactions within this design, power was reduced to .68 at the same significance level. Post hoc application of a more liberal alpha level of 0.05 (power = 0.87 for ANOVA interactions) yielded only one additional MANOVA effect, a Parent Type \times Confederate interaction, $F(16, 322) = 1.72, p = .042$. Follow-up ANOVAs indicated that married mothers were more likely than the other parent types to indulge deviant as opposed to normal confederates, whereas single mothers were more inclined than other parents to laugh with normal versus deviant confederates.

Table II. Description of Categories of Family Interaction Coding System Used in Analyses of Adult Behaviors^a

<i>Approval</i> ($r_{xx} = .79$; $M_{diff} = 0.54$): A clear indication, verbal or nonverbal, of positive interest or involvement directed at the behavior, appearance, or personal characteristics of another. It is a reinforcement, not a grant of permission.
<i>Attention</i> ($r_{xx} = .87$; $M_{diff} = 1.57$): Denotes listening to or looking at another. It generally requires eye contact and/or some form of verbal recognition. It can be an initiative or a response.
<i>Command</i> ($r_{xx} = .88$; $M_{diff} = 1.53$): A direct, reasonable, and clearly stated request of or command to another. The verbal statement specifies the behavior expected and implies that an immediate response is anticipated.
<i>Indulge</i> ($r_{xx} = .91$; $M_{diff} = 0.67$): Coded when, without being asked, a person stops what he or she is doing to do something for another which that person is fully capable of doing for himself or herself. Common kindness in the normal course of behavior, is not indulgence, rather the indulgent person must interrupt an ongoing chain of behaviors to perform an unnecessary act for a capable person.
<i>Laugh</i> ($r_{xx} = .80$; $M_{diff} = 0.53$): Whenever a person laughs aloud pleasantly and in an agreeable manner.
<i>Play</i> ($r_{xx} = .94$; $M_{diff} = 1.02$): Used when a person is amusing himself or herself, either alone or with another. Not restricted to games with clearly defined rules, but is applicable to many amusing activities such as playing with toys.
<i>Talk</i> ($r_{xx} = .82$; $M_{diff} = 1.87$): This code covers exchange of conversation when no other verbal codes are applicable. If talk is part of ongoing work or play it is coded as work or play, rather than talk, which is considered a second-order verbal behavior.
<i>Work</i> ($r_{xx} = .95$; $M_{diff} = 1.93$): Task-oriented behaviors essential to smooth functioning and goal attainment in the interaction as it is structured.

^a Interrater reliability data, including correlations (r_{xx}) and mean differences (M_{diff}) between raters across participants for the total frequencies of behaviors within each category, are noted in parentheses alongside the category names.

Table III. MANOVA and Follow-Up ANOVA Summary, including Means and Standard Deviations for Effects of Offspring Type, Parent Type, Beverage, and Confederate on Adult Behaviors

MANOVA effect and adult behavior ANOVAs		Means (SDs)	
Offspring	$F(8, 161) = 3.00^{**}$	<i>Deviant</i>	<i>Normal</i>
Approval	$F(1, 168) = 7.78^{**}$	2.7 (2.8)	4.0 (3.4)
Laugh	$F(1, 168) = 6.83^{**}$	1.3 (1.7)	2.4 (3.8)
Play	$F(1, 168) = 6.95^{**}$	42.5 (8.9)	39.4 (9.4)
Parent type	$F(16, 322) = 1.04$		
Beverage	$F(8, 161) = 5.96^{***}$	<i>Alcohol</i>	<i>No alcohol</i>
Attend	$F(1, 168) = 20.78^{***}$	16.8 (8.8)	22.0 (8.2)
Command	$F(1, 168) = 7.20^{**}$	16.7 (13.1)	13.1 (12.8)
Indulge	$F(1, 168) = 6.49^{**}$	2.4 (3.2)	1.3 (2.5)
Talk	$F(1, 168) = 6.80^{**}$	28.9 (12.0)	24.7 (11.2)
Work	$F(1, 168) = 7.00^{**}$	89.5 (19.5)	95.3 (18.3)
Confederate	$F(8, 161) = 45.15^{***}$	<i>Deviant</i>	<i>Normal</i>
Attend	$F(1, 168) = 27.69^{***}$	22.2 (9.0)	16.4 (6.4)
Command	$F(1, 168) = 173.80^{***}$	23.8 (11.2)	6.0 (7.6)
Indulge	$F(1, 168) = 31.32^{***}$	3.1 (3.5)	0.6 (0.7)
Laugh	$F(1, 168) = 8.21^{**}$	1.2 (2.4)	2.4 (3.2)
Play	$F(1, 168) = 82.01^{***}$	35.8 (8.3)	45.8 (9.0)
Talk	$F(1, 168) = 7.98^{**}$	29.1 (9.2)	24.5 (8.3)
Work	$F(1, 168) = 127.44^{***}$	80.0 (18.3)	104.8 (18.1)

MANOVA results are in bold; significant ANOVAs are in standard print.

$^{**}p < .01$. $^{***}p < .001$.

effect of drinking on overall parenting skill is nonetheless a meaningful outcome. For too long there has been a lack of experimental evidence conclusively documenting the direct causal impact of acute alcohol intoxication on adult behaviors in interactions with children—despite the critical role that speculation about it has played in theories of the alcoholic family and the consequences of parental drinking for children. Moreover, there is potentially important theoretical and practical significance in the step the present research took toward discovery of the nature and mechanisms of these alcohol-induced behavioral changes and of the associated alterations of parents' subjective evaluations of the boys with whom they interacted.

Among the most significant changes in parent behavior occasioned by alcohol intoxication were those evident in the way they modulated and expressed their attention to the child being supervised. Even without considering the potential utility of simple attention as a reinforcer, there are reasons to view the relation between alcohol intoxication and altered attention as fundamental to the problems that drinking parents may have in managing interactions with children. In the present study, parents who drank alcohol were significantly less likely than sober parents to exhibit behavior specifically coded as attention (listening to or establishing eye contact with the child) and, if this is a typical response, it could reduce their parental effectiveness. However, it may not have been so much that

intoxicated parents were inattentive—they did, for example, issue more commands to the children, actions that imply attention—but, rather that they did not attend to the right things or respond appropriately.

The influential work of Steele and his colleagues (e.g., Steele & Josephs, 1990) offers a framework for understanding how alcohol's well-documented impairment of information processing, notably including reduced attentional capacity and facility, might play a pivotal role in many maladaptive interpersonal behaviors associated with drinking. With overall attention compromised by alcohol, there tends to be a narrowed focus on the most immediate and intense stimuli, accompanied by a reduced ability to accurately interpret the information that is perceived because more subtle, peripheral cues cannot be accessed or integrated. The result is what has been called "alcohol myopia," (Steele & Josephs, 1990) a condition characterized by short-sighted overemphasis on a few salient, but not necessarily important or well-understood, aspects of the immediate situation that can result in inappropriate emotional and behavioral reactions. Obviously, any such process operating in complex adult-child interactions could severely limit parental efficacy.

Attentional capacity and allocation problems due to intoxication may be particularly troublesome in situations laden with many distracting environmental demands that could direct the focus of limited attentional capacity to trivial or aversive aspects of the situation. Distressing distracters, of course, frequently do accompany parenting behavior—especially in homes with deviant children (Crnic & Acevedo, 1995). Moreover, research on dysfunctional parent-child interactions (see Wahler & Dumas, 1989, for a review) suggests that a stress-induced deficiency in maternal attention is often associated with poor parenting and deviant child behavior. It seems likely that alcohol intoxication could exacerbate these already difficult relationships.

Corroborating evidence of alcohol-related attentional and information processing disturbance was also found in the assessments parents made of their interaction partners. Compared with sober participants, intoxicated parents were inclined to report seeing significantly less ADHD/CD/ODD behavior in the deviant confederates—despite the fact that neither the content nor manner of confederate role enactment varied as a function of parent beverage condition. Obviously, parents who fail to attend to, or who simply misperceive, problem behaviors in children are in a poor position to correct them. Furthermore, to the extent that adequate attention is a prerequisite for parental supervision (i.e., tracking of children's activities, associates, and adjustment) as well as a marker of involvement, research indicating that CD is related to poor

monitoring by parents should be noted (Patterson, 1986). It points to the possibility that attention and perception problems could mediate the correlation between drinking parents and problem children. If alcohol intoxication has such adverse consequences for parental attention and perception, serious consideration should be given to the potential for drinking parents to contribute to the persistence and perhaps intensification of child behavior problems as a direct function of the frequency and magnitude of their alcohol impairment.

Reduced consistency in parenting behavior appeared to be another consequence of drinking in this experiment. This effect, widely held to be associated with the development and intensification of deviant behavior in children (see, e.g., Maccoby & Martin, 1983; Patterson, 1982, for reviews), was evident at two levels. First, as already discussed, there were the alcohol-induced changes in parental perceptions of child deviance and misbehavior, and hence in their probable inclination to correct them. Such tendencies mean that children are liable to face disciplinary patterns that vary, not as a function of their own behavior, but rather as a consequence of their parents' state of intoxication or sobriety. At best, such a confusing condition requires that children learn to identify parental intoxication as a discriminative stimulus signaling that altered behavioral contingencies are in effect.

Even a child's ability to recognize and adapt to parental drinking as a discriminative stimulus may not be sufficient, however, because there were some subtle indications that acutely intoxicated parents were generally less consistent in their interactions with confederates. For example, drinking adults not only gave more commands (suggesting the expectation that the boy could execute the act) but also engaged in more "indulgent" behaviors, defined as unnecessary and unsolicited performances of acts, other than acts of kindness, for a capable person. Although the rate of such indulgences was low relative to commands in this study, at least some potentially confusing inconsistency was suggested. Moreover, given the fact that some forms of parental indulgence have been related to immaturity, impulsivity, and irresponsibility in children (Maccoby & Martin, 1983), interspersing indulgence with an elevated rate of commands does not seem optimally functional.

The conclusion that parental intoxication is associated with rather disorganized, sometimes noncontingent, and occasionally inconsistent interaction styles is also supported by data from the talk and work categories of the behavioral coding system. Parents in the alcohol condition showed an inclination to engage in more irrelevant talk, while failing to sustain task-oriented work behaviors. This difficulty in developing and maintaining a focused and effectively structured approach to interactions might

represent an especially critical deficit for parents who must manage children with externalizing behavior problems because consistent, predictable guidance and clear contingencies are so vital to successful control of such children (Patterson, 1982; Wahler & Dumas, 1989). Indeed, it was evident from the main effects due to confederate role that deviant children precipitated more chaotic interactions in which all parents were diverted from their task (worked less, talked more), were less congenial (laughed and played less), and were inconsistent (more commands, coupled with more indulgence). The fact that an acute dose of alcohol had similar adverse effects on task orientation and consistency, while also decreasing attention, highlights some of the ways in which it is likely to further reduce parental effectiveness.

Although we urge caution about making much of null results and recognize that statistical power limitations may have allowed some meaningful higher-order interactions to escape detection, the failure of beverage treatment to interact with any of the parent-type or offspring-type variables used in selecting study participants was striking and perhaps noteworthy. Men and women, married or single, and parents of both normal and deviant offspring were all subject to potentially deleterious effects of alcohol on their perceptions of the confederates and on their interactions with them. In fact, the only observed differences in overall parenting styles attributable to parent characteristics involved comparisons between the PDC and PNC groups. The latter group showed somewhat greater approval and laughter than the former—a finding consistent with the observation of greater congeniality in nondistressed versus distressed families (Jacob *et al.*, 1991). A bit unexpected was the greater playfulness of PDC participants compared with PNC participants, although the coding of the “play” variable did not distinguish between amusement of oneself and that involving another, so it is difficult to determine the interpersonal significance of this difference. In any case, the absence of differential influences of drinking on the various subgroups of parents suggests a prepotency of alcohol effects and warns that episodes of acute intoxication in connection with child-management responsibilities ought to be avoided by all parents. Yet, these results point to the need for special concern about drinking by parents with children whose frequent externalizing behavior problems represent a significant source of stress and demand an unusually high level of parental competency (Mash & Johnston, 1990; Wahler & Dumas, 1989).

Although clearly there is reason to believe that genetic factors contribute to the connection between parental drinking problems and externalizing behavior disorders of childhood, the potential contribution of psychosocial variables to this relationship is becoming increasingly ap-

parent. These psychosocial effects are perhaps best understood in terms of a reciprocal interaction model, which considers both parental drinking influences such as those demonstrated in this experiment and “child effects” of the sort described by Bell and Harper (1977) and subsequently reviewed by Lytton (1990). This broadened perspective calls attention to the fact that not only do parents affect children but children also have the potential to exert powerful influences on their parents through their personal attributes and behaviors. The demonstration that children exhibiting ADHD/CD/ODD behaviors evoke significant distress and coping efforts from adults charged with their care is a case in point (Mash & Johnston, 1990).

If the coping attempts elicited by difficult children are emotion-focused rather than problem-focused (cf. Lazarus & Folkman, 1984), they might include increased alcohol use and thus contribute to the correlation of interest. In fact, evidence of this very effect has already been obtained in two experimental analogue studies from our laboratories (Lang, Pelham, Johnston, & Gelernter, 1989; Pelham *et al.*, 1997). Using a paradigm similar to that used in the present study, except that an ad lib drinking opportunity followed the adult-child interactions as opposed to manipulation of a fixed alcohol dose preceding them, we found that adults exposed to deviant (ADHD/CD/ODD) confederates consumed significantly more alcohol than those who interacted with boys in the normal role. Assuming that similar increases in parental drinking occur in response to child misbehavior in the natural setting, the resulting compromise of the adult’s child-management skills could exacerbate the behavioral problems of the child. More intense child behavior problems could then precipitate further parental drinking and, if uninterrupted, the potential for a vicious cycle of declining family function due to the reciprocal interaction pattern is obvious.

In conclusion, it should be emphasized that the focus of our experimental analogue study on the acute effects of alcohol intoxication on parenting behavior and on the immediate consequences of child behavior for alcohol consumption by parents in no way obviates the need for continued consideration of both biological or family-systems factors in the role of drinking in parent-child interactions or their sequelae (e.g., Goldman, 1993; Steinglass, Bennett, Wolin, & Reiss, 1987.) Indeed, the methods used in our study may have some inherent limitations. For example, the external validity of child-management strategies observed in adults’ interactions with children other than their own—particularly in a laboratory environment within a limited observational time frame—is open to some question, although relevant work by Anderson, Lytton, and Romney (1986) provided support for the validity of the functional-pairs approach. Moreover, it should

be acknowledged that the parents in our sample may not have been representative of the general population of either PNC or PDC. All appeared to be relatively high functioning and evinced little or no indication of personal psychiatric difficulties, an outcome that is somewhat unusual, particularly for a PDC group. This could partially account for the absence of interactions of beverage manipulations with parent type or offspring status. We also expressly excluded any persons with alcohol problems, and they may well have responded differently.

Despite these limitations, the contribution of a truly experimental evaluation of the effects of acute alcohol intoxication on parenting should not be underestimated for it provides potentially important information germane to the puzzle of alcohol and the family. Our hope is that the varied conceptual perspectives and methodological approaches to study in this area will continue to become increasingly informed by one another so that the limitations of each can be overcome, and better understanding can be achieved through convergent evidence.

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